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Ops and Tactics: Advanced Weapons Manual

Advanced Arms

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Chapter 1

Advanced Arms

Advanced Arms is a supplemental book for the Ops and Tactics roleplaying game, focused around elements of science fiction and high technology. It makes synthetic beings and two offshoots of humanity available to create characters from, and introduces high-tech computers, energy weapons and cybernetic implants along with rules for space travel and games that span between stars. Plasma and laser weapons are advanced electrical weapons that can punch through conventional armors like butter and can be upgraded with exotic firing modes, but require heat management to continue functioning. Cybernetics can make a character more than human, granting them capabilities far above and beyond what flesh and blood could grant. The space travel rules provide a system for designing spacefaring vessels and combat between them, as well as guidelines to help design the worlds that they may visit. Advanced Arms can be used to run games ranging from the near future all the way to something approaching space opera.

Advanced Arms and the Core Rulebook

In **Ops and Tactics**, equipment is priced at its regular modern cost. The future brings on new, exciting things which causes older equipment to decrease in price. When using Advanced Arms, use these rules to ensure proper compatibility with the core rulebook.

Equipment Cost

- All firearms cost 10% less.
- All computers/consumer electronics cost 35% less.
- Ranged Weapon Upgrade, Day/Night Sight costs 50% less.
- Ranged Weapon Upgrade, Thermal Sight costs 45% less.
- Ranged Weapon Upgrade, Night Vision Sight costs, 40% less.

Occupations

Any occupation that can select Personal Firearms Proficiency as one of their occupational feats may select Personal Plasmas Proficiency.

Investigate and Law Enforcement

An Investigative or Law Enforcement character may select Personal Plasmas Proficiency and if they do, they receive a PEP-25 plasma pistol or a Type 14 LP laser pistol. If the Investigative or Law Enforcement Character chooses both Personal Firearm Proficiency and Personal Plasmas Proficiency, they may have their choice between the PEP-25 plasma pistol, an Type 14 LP laser pistol, or the same handgun choice they would have if they chose Personal Firearms Proficiency. They may only choose one.

Feats

Any feat that has Personal Firearms Proficiency as a prerequisite may use Personal Plasmas Proficiency in its place. Plasarms, lasarms, and elarms are also classified to their closest firearm type in their descriptions, and any feat that works with the classification, will also work for plasarms, lasarms, and elarms.

Far Shot Plasarms and lasarms can take the benefits that this feat gives. Elarms may not take the benefits that this feat gives unless otherwise specifically noted.

Double Tap Proficiency Plasarms no longer have a -3 attack penalty to double tap attacks.

Handgun Reloader Reloading a coolant pack into a plasma, laser or electric pistol costs 2 CP.

Rifle and SMG Reloader Reloading a coolant pack into a plasma SMG, plasma rifle or plasma sniper rifle costs 2 CP.

Shotgun Reloader Reloading a coolant pack into a Beamcaster costs 2 CP.

Rifle Expert Plasma SMGs receive a +2 damage dice when performing gridshot or pulseshot attacks.

Gunsmithing

.28 Caseless is in the 5th category, .40 Caseless is in the 8th category, and .20 Hi-Velo Caseless is in the 10th category.

A character must use a pre-existing magazine when crafting a caseless firearm.

Linguistic Skill

Polaran is a language group which contains the Polar language.

Kandari is a language group which contains the Kandari language.

Synthetic Language Group

Synthetics have a language group that only they can learn. The languages in the group are Glass, Penguin, Fruit, Beep, Devil, and Open Source Language (OSL). It cost 1 WP for a synthetic to learn how to read, write and speak one of these languages, in addition to the necessary skill point. Only synthetics may learn Glass, Penguin, Fruit, Devil, or Beep. It is advised that when playing a game using synthetics that the GM grant OSL as a free language to all non-synthetic PCs. The GM can represent this language group in any manner they see fit, but lines of programming code, rapid beeps and blips, flashes of various colored lights, and binary code are all good ways of doing that. The translator augmentation module can also be used to translate to and from these languages, and while it is able to generally convey most ideas fairly adequately, it can (and often does) mistranslate due to the massive language differences between a digital and traditional language. Performing any Speechcraft skill checks increases the TN by 10, when using a translator augmentation module to translate any non-synthetic language into a synthetic language, or to translate any synthetic language into a non-synthetic language

Chapter II

Races

Humans

Polarans

Physical Description

A healthy polaran typically stands between 5-6½', and weighs between 130-180 lbs. The men and women are generally the same height. Polaran skin tone ranges from a pale flesh tone all the way to a snow white, and their hair ranges from a faint grey to bright white, with some possessing naturally blue hair, with silver and white being more common, almost exclusively straight and long. Eye color is also unique, ranging from a deep teal all the way to a deep dark blue, to assist in the snow. The average polaran lifespan is 110 years, reaching physical adulthood between the ages of 17-22.

Language

The native language of a Polaran is Polar, but Trade Bant is an often taught language, for trade.

Names

Polarans have two names, The first name being a given name, and is used to refer to the particular polar, the second name being their family name, that denotes their immediate family.

Polaran Racial Traits

- ⌑Polarans are Medium sized creatures.
- ⌑Polarans are immune to cold environments. They do not have to make a Saving Throw against cold environments.
- ⌑Polarans are weak to hot environments. The Fortitude Saving Throw to resist hot environments is doubled.
- ⌑Polarans receive the extra feat Second Wind at 1st level for free, even if they do not meet the prerequisites.
- Polarans have a Natural Energy Resistance to cold. They gain 5/Cold DR.
- Polarans receive the extra feat Forgiving Damage (Any) at 1st level for free.
- ◊Polarans have a base Combat Point Score of 16.
- ◊Polarans CHP formula is `CON Score + 1`.
- ◊Polarans have the Fast Healing ability based on their climate, or if they're wearing their chill collar. Fast Healing stops working when the race is reduced to –10 CHP or fewer.
  - **Cold climates or wearing a chill collar in any climate** Polarans heal 1 bleed dice per round, and heal 1 HP per round
  - **Very Cold climates** Polarans heal 2 bleed dice per round, and heal 2 HP per round
  - **Extremely Cold climates** Polarans heal 3 bleed dice per round, and heal 3 HP per round
- ◊When a Polaran is not in an extremely cold, very cold, or cold climate, or is not wearing a chill collar, their base Combat Point Score drops to 10.
- ◊Polarans have Polar as their native language.

Kandari

Physical Description

A healthy kandari typically stands between 5½-6½', and weighs between 150-200 pounds. Kandari skin tone ranges from a light flesh tone to a pale yellow, and their hair is almost exclusively black, and almost exclusively straight and long. Eye color is extremely unique, as they have the possibility to have any color of iris. Kandari also have two black dots above each of their eyebrows. The average kandari lifespan is 140 years, reaching physical adulthood between the ages of 24-28.

Language

The native language of a kandari is Kandari, but because of their ability to understand structure, patterns, and systems they pick up any language easily. English or Trade Bant is an often taught language, for trade. A kandari is capable of speaking any language of their home location, which will transcend the typical language spoken in their area or origin.

Names

Kandari usually have one long, complicated name, that spells out their personal name, family name, and current job title, in one neat package. Because of the cultural exchange, the first few syllables of their name is used by other races to denote them.

Kandari Racial Traits

- ⌑Kandari are Medium sized creatures.
- ⌑When Kandari Release a Spell, Recite an Incantation, or use Psionics, the CP cost is 1 less.
- ⌑Kandari possess Darkvision, which allows them to see in total darkness, out to 50 feet. This vision is black-and-white only.
- ⌑Kandari receive a –4 Racial Recoil Penalty to recoil when using any weapon that has recoil.
- ⌑Kandari have a Mental Limit equal to **((6+WIS Score)×CL) + 70**.
- ◊Kandari have a base Combat Point Score of 15.
- ◊Kandari receive Kandari as their native language for free, and can chose 4 languages as a native languages in addition.
- ◊Kandari CHP formula is `CON Score + 1`.

Synthetics

Synthetics are beings created through science and technology, rather than natural means. They are often called silicones, androids, robots (a derogatory label, as they can think and feel), and synths.

Synthetics are comprised of two parts: a positronic brain and a shell.

Positronic Brain

The positronic brain is the mental aspect of a synthetic, housing all of their mental abilities and statistics. The positronic brain houses the Intelligence, Wisdom, and Charisma for the synthetic. Due to the nature of synthetics, their brain can be removed from the shell and placed in another. All positronic brains have a wireless receiver and broadcaster that can interact with any interfaceable object.

Unlike AI units, synthetics have actual intelligence. They can learn, think, reason, have feelings, emotions, wants, desires, hopes and dreams.

Shell

The shell is the physical aspect of a synthetic, housing all of their physical abilities and statistics. The shell houses the Strength, Dexterity, and Constitution for the synthetic. The physical appearance of the shell varies greatly due to the personality and wealth of the synthetic, with some having a decidedly artificial appearance while others looking and even feeling natural in all aspects. Shells usually take a sentient-like appearance with a torso, two arms, and two legs. This is primarily done to be compatible with the various augmentations and equipment, and secondarily out of the unconscious narcissistic habit of their creators to design what is familiar. They can feasibly look like any race. Due to the mechanical, structural, and electrical nature of the shell, it does not heal or recover damage like natural creatures. A synth can change their shell for 100 WP, and it takes 1 day for the change to be completed. The only exception to this is the Frail shell. Frail shells are free and it takes 20 minutes to change into or out of. The limbs of a synthetic's shell can accept upgrades as though they were cyberlimbs, with a limit of 2 upgrades per limb. They may still replace these limbs with actual cyberlimbs as normal, with all of the benefits and penalties that they entail.

Personality and Culture

Synthetic creatures, due to their mimicry of true life, have a large span of possible personalities. Synthetic culture is only vaguely recognizable to non-synths, revolving around electronics, software, programs and other digital nuances. Synthetics also often take and assimilate themselves into whatever culture that is around them.

Language

The native language of a Synthetic is dependent on what kind of language they were given at creation. All Synthetics know Open Source Language, and can choose Glass, Penguin, Fruit, Devil, or Beep as a secondary language for free.

Names

Synthetics usually have a long set of names. The first name is usually a chosen personal name, the middle name usually denotes their design, use, or model, though this is optional, and the last name is given, either by a creator, family, user, or randomly generated.

Racial Traits

The racial traits of a Synth are dependent on what kind of shell they choose.
All Synthetics have the following traits

- Synthetics receive OSL as their native language for free, and can chose any language in the Synthetic Language Group as a secondary native language.
- Synthetics can not use magic, psionics, or incantations.
- Synthetics have a Mental Limit equal to 0.
- Synthetics heal HP through the Craft (Structural) skill vehicle repairing action.
- Synthetics are immune to Pepper Spray, Bear Fogger, Tear gas, Pepperballs and Pava balls.
- Synthetics are immune to all Psionic (Telepathy) attacks, effects, and benefits.
- Synthetics are immune to all Spellschool (Conjuration), Healing Subschool and Spellschool (Necromancy) spells.
- Synthetics are immune to all Incantion (Hex) Incantations.
- Synthetics are considered Huge objects for the purpose of spells.
- Synthetics are considered Huge steel ingots for the purpose of Spellschool (Transmutation) spells.
- Synthetics are immune to the effects and benefits of all poisons, diseases, narcotics, drugs, potions, and pharmaceuticals.
- Synthetics do not have to consume food, water or air, and can not starve, become dehydrated, or suffocate.
- Synthetics can not be Sickened, Inebriated, Nauseated, Fatigued, or Exhausted.
- Synthetics do not take bleed damage.
- Synthetics are not affected by any augmentation effects that would reduce or increase their CHP.
- When Synthetics are caught in any EMP effect, they may roll a Fortitude Saving Throw [TN20] or be Stunned for 1d3 rounds. Any augmentations the synthetic has on their shell are immediately disabled, if they do not have any upgrades or other means to mitigate an EMP.
- Synthetics that are reduced to -1 CHP or below do not suffer from the Dying condtion, and do not need to be stabilized. Any time a synthetic would be Dying, they are Disabled instead.

Frail Shell

- Frail Shells have a base Combat Point score of 10.
- A Frail Shell's CHP formula is CON−2.
- Frail Shells are vulnerable to electrical, fire and cold attacks, and take twice as much damage from all electrical, fire and cold attacks and all effects with electrical damage are doubled in duration.

Standard Shell

- Standard Shells have a base Combat Point score of 15.
- A Standard Shell's CHP formula is `CON Score - 1`.
- The Standard Shells are vulnerable to electrical attacks, and take twice as much damage from all electrical attacks and all effects with electrical damage are doubled in duration.
- All augmentations cost 50% less for a Standard Shell.
- A Standard Shell gains a +3 bonus on all Knowledge skills.
- A Standard Shell gains a +6 bonus on the Technology Use skill, and does not require any kind of equipment to perform any action under it.
- The Standard Shells have built-in augmentative vision with 1 RAM and 2 HDD.

Armored Shell

- Armored Shells have a base Combat Point score of 12.
- An Armored Shell's CHP formula is `CON Score + 1`.
- Armored Shells have a natural 2/Ballistic, Bludgeoning, Slashing, Piercing, and 1/Electric, Plasma damage reduction.
- Armored Shells have a +4 Strength for the purposes of Carrying Capacity.
- All augmentations cost 25% less for an Armored Shell.
- Armored Shells gain 3 XHP per level. This is added after their total XHP for the level is calculated. Removing this shell also removes this XHP bonus.
- The Armored Shells have built-in augmentative vision with 1 RAM and 2 HDD.

Agile Shell

- Agile Shells have a base Combat Point score of 18.
- An Agile Shell's CHP formula is `CON Score - 2`.
- Agile Shells have a natural +1 dodge bonus to Defense.
- Agile Shells are vulnerable to electrical, fire and cold attacks, and take twice as much damage from all electrical, fire and cold attacks and all effects with electrical damage are doubled in duration.
- All augmentations cost 50% less for an Agile Shell.
- Agile Shells have built in augmentative vision with 2 RAM and 5 HDD.

Hybrid Races

It is quite common that a character will have parents of different races as time, location, and culture have integrated people of different races into the same community.

When having a character with two racial backgrounds, choose which race is dominant, and which one is recessive. The Dominant trait is the one that will be most visible, and will have the effect on appearance, while the recessive trait is the one that will have the effect on the racial ability benefits and penalties.

A ♢ symbol next to a racial trait indicates that it is a recessive trait. A ⌑ symbol indicates that it is a dominant trait.

Chapter III

Feats

Plasma Proficiency Feats

Personal Plasmas Proficiency

Benefit The character can fire any personal plasarm, lasarm, or elarm without penalty.

Normal Characters without this feat take a –4 penalty on attack rolls made with personal plasarms, lasarms and elarms, and can not reload plasarms, lasarms, or elarms.

Tutoring

Time 1 hour
Benefit Can reload plasarms, lasarms and elarms and attack penalty is reduced to –3

Advanced Plasmas Proficiency

Prerequisites Personal Plasmas Proficiency

Benefit The character can perform gridshot attacks at a –3 penalty, and when performing a waveshot attack the Reflex Saving Throw TN is increased to [TN15].

Normal Characters without this feat take a –6 attack penalty when attempting a gridshot attack, and when performing a waveshot attack the Reflex Saving Throw TN is [TN9].

Targeted Plasmas Proficiency

Prerequisites Personal Plasmas Proficiency, Advanced Plasmas Proficiency

Benefit The character can perform bounceshot, pulseshot, and focusshot attacks at a -3 penalty.

Normal Characters without this feat take a -6 attack penalty when attempting a bounceshot, pulseshot, or focusshot attack.

Advanced Plasmas Mastery

Prerequisites Personal Plasmas Proficiency, Advanced Plasmas Proficiency, Targeted Plasmas Proficiency

Benefit The character can perfom gridshot, bounceshot, pulseshot, and focusshot attacks without penalty.

Normal Characters without this feat take a -6 penalty when attempting a gridshot, bounceshot, pulseshot, or focusshot attack.

Plasma Bloom Management

Prerequisites Personal Plasmas Proficiency, Advanced Plasmas Proficiency

Benefit When performing a waveshot attack the Reflex Saving Throw TN is increased to [TN18]. When performing a gridshot attack, the character may choose to change its area of effect in one of the following ways:

- Change the area of effect to a 5'-by-10' area, and increase the Reflex Saving throw TN to [TN22]
- Change the area of effect to a 10'-by-20' area, and decrease the Reflex Saving Throw TN to [TN14]

Plasma Trickshooter

Prerequisites Personal Plasmas Proficiency, Advanced Plasmas Proficiency

Benefit When performing a bounceshot attack the penalty for attacking into the flank or rear area when guiding the bounced shot is reduced by 5.

General Feats

Coolant Specialization

Choose Plasarms, Lasarms, or Elarms.

Prerequisites Personal Plasmas Proficiency

Benefit When using the chosen weapon type, the heat cost for attacks is multiplied by .75 rounded down (Minimum 1) and the Combat Point cost to reload is reduced by 1.

Special A character may take this feat multiple times. Each time the character takes the feat, they select a different type.

Plasma Blade Feats

Plasma Blade Proficiency

Benefit The character can use any standard hilt or curved hilt plasma blade without penalty.

Normal Characters without this feat take a –4 penalty on attack rolls made with standard and curved hilt plasma blades.

Special A character with Archaic Weapon Proficiency (Combat Swords or Fencing Swords) only takes a –2 penalty on attack rolls when using a plasma blades.

Tutoring

Time 3 days
Benefit Attack penalty when using a plasma blade is reduced to –2. If the character has Archaic Weapon Proficiency (Combat Swords or Fencing Swords) feat, the penalty is reduced to –1

Basic Defensive Form

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency

Benefit When engaged in melee combat against a character using a psiblade or plasblade, the character gains a +4 dodge bonus to DEF, and gains a +2 dodge bonus to DEF against any other melee attacks. When attempting the Deflect reaction, the character can attempt to deflect any plasarm shots that they meet the prerequisites to deflect, and they may also attempt to deflect any thrown weapons, crossbow bolts, arrows, fired spears, paintballs, 18mm less lethal rounds, slingshot projectiles, any caseless rounds, any black powder rounds, any cased rounds, or any slug shelled rounds that are fired or thrown at them through a single ranged attack, single shot attack, or potshot attack. The character may not attempt to deflect any fired grenades, thrown grenades, rockets, missiles, mortars, or any shell round that is not a slug.

Normal The character can only deflect a single attack once per round, and may not attempt to deflect other types of objects besides plasarm fire.

Deflect Form Focus

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form

Benefit When attempting the Deflect Reaction, the character may attempt to deflect sprayfire, sweepfire, pulsefire, double tap, and burst fire attacks.

Normal A character may not attempt to deflect sprayfire, sweepfire, pulsefire, double tap, or burst fire attacks.

Reaction Form Focus

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form

Benefit When using a psiblade or plasblade, a character gains a +5 bonus to their Will Saving Throw when performing the Predict reaction and a +5 bonus to their Reflex Saving Throw when performing the Parry reaction.

Intermediate Defensive Form

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form, Reaction Form Focus *or* Deflect Form Focus

Benefit When attempting the Deflect Reaction, the character receives a +4 to their Reflex Saving Throw, and the character gains a +4 bonus to disarm when wielding a psiblade or plasblade. Also, when attempting a Parry reaction against a target with a psiblade or plasblade, the character gains an additional +4 to their DEF increase from the parry, on a successful parry, when wielding a psiblade or plasblade. This increase lasts as long as the original bonus from successfully parrying against a target.

Deflect Form Expertise

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form, Deflect Form Focus, Intermediate Defensive Form

Benefit When attempting the Deflect reaction against plasarms, a character may aim the deflection at a specific target. If the character is successful at deflecting the attack, they may attempt a Ranged Attack with a –4 penalty against any target that is within their line of sight. If this attack is successful, the attack is directed at this target instead. Additionally, they may deflect attacks coming from their left and right flanks in addition to their front.

Normal Deflect reactions may only be attempted if they are facing the attack.

Reaction Form Expertise

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form, Reaction Form Focus, Intermediate Defensive Form

Benefit When using a psiblade or plasblade, a character gains an additional +3 bonus to their Will Saving Throw when performing the Predict reaction and an additional +3 bonus to their Reflex Saving Throw when performing the Parry reaction. Also, when using a psiblade or a plasblade, the character can change their reaction to either the Predict reaction or the Parry reaction, after the first attack that triggers their reaction, once per round. If they choose to do this, they immediately lose the previous bonus from the previous reaction and they immediately reroll the saving throw and receive the new bonus.

Expert Defensive Form

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form, Reaction Form Focus *or* Deflect Form Focus, Intermediate Defensive Form, **and** Reaction Form Expertise *or* Deflect Form Expertise

Benefit When any hostile creature moves adjacent to the character, the character immediately receives an Attack of Opportunity when wielding a psiblade or plasblade. This is limited to one attack per hostile creature. When fighting defensively with a psiblade or plasblade, there is no additional Combat Point cost and the attack penalty is reduced to –2. When wielding a psiblade or plasblade, the Combat Point cost to perform any reaction is reduced by 3.

Deflect Form Master

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form, Deflect Form Focus, Intermediate Defensive Form, Deflect Form Expertise, Expert Defensive Form

Benefit When attempting the Deflect reaction against plasarms, the character receives an additional +4 to their Reflex Saving Throw, and they may attempt a Ranged Attack with no attack penalty. Additionally, they may deflect attacks comming from any direction.

Normal Deflect reaction ranged attacks have a –4 penalty. Deflect reactions may only be attempted if they are facing the attack.

Reaction Form Master

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Defensive Form, Reaction Form Focus, Reaction Form Expertise

Benefit When using a psiblade or plasblade, the character can change their reaction to either the Predict reaction or the Parry reaction, after the first attack that triggers their reaction, up to five times per round. If they choose to do this, they immediately lose the previous bonus from the previous reaction and they immediately reroll the saving throw and receive the new bonus.

Basic Offensive Form

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency

Benefit When engaged in melee combat against a character that is using a psiblade or plasblade, the character gains a +3 bonus to all attacks made with their own psiblade or plasblade. When engaged in melee combat otherwise, the character gains a +2 bonus to all attacks made with their own psiblade or plasblade. Also, when using a psiblade to attack any object or armor that has plasma damage reduction, the damage given immediately goes into soak, even if it does not breach the object or armors damage reduction.

Normal Plasma damage that connects with Plasma damage reduction does not move to soak unless the damage is more than the damage reduction.

Rapid Form Focus

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form

Benefit When using a psiblade, a character may attack with a psiblade at a –1 Combat Point cost. If they do, they do not use their

POW when calculating damage. This reduction applies to all attacks that take benefit of this Combat Point reduction.

Precision Form Focus

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form

Benefit A character gains a +4 attack bonus to all Called Shot attacks against arms and legs made when attacking with a psiblade or plasblade. The character may also make non-lethal attacks with the psiblade or plasblade at a –2 attack penalty. Also, when attacking an object, the character gains a +2 attack bonus and ignores 1 point of hardness.

Normal Non-lethal attacks have an attack penalty of –4.

Intermediate Offensive Form

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form, Precision Form Focus *or* Rapid Form Focus

Benefit The character can throw their psiblade or plasblade, which has the same damage, a range of 20', and is considered a Small thrown weapon when used in this manner. Also, when using a psiblade or plasblade, a character may increase the Combat Point cost of a standard melee attack by +1. If they do, they gain a +1 damage bonus for every +1 increase of Combat Point cost.

Special As long as a character has Combat Points to spend during their turn, they are free to add to the cost to attack. Also, when using a psiblade to attack any object or armor that has plasma damage reduction, the damage given immediately goes into soak and the damage to soak is doubled, even if it does not breach the object or armors damage reduction.

Normal Plasma damage that connects with Plasma damage reduction does not move to soak unless the damage is more than the damage reduction.

Rapid Form Expertise

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form, Rapid Form Focus, Intermediate Offensive Form

Benefit When using a psiblade or plasblade, for every three successful melee attacks a character completes, the character immediately receives one additional attack for no Combat Points. The extra attack is with the same weapon and at the same bonus as the attack as the previous three attacks. Also, the Combat Point Cost to Heavy attack is reduced by 1 and the cost to Full attack is reduced by 2 when using a psiblade or plasblade.

Precision Form Expertise

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form, Precision Form Focus, Intermediate Offensive Form

Benefit A character gains an additional +4 attack bonus to all Called Shot attacks against arms and legs made when attacking with a psiblade or plasblade, gains a +4 attack bonus to all Called Shot attacks against hands and feet when attacking with a psiblade or plasblade, and the character suffers no attack penalty when Aggressive attacking with a psiblade or plasblade. Also, when attacking an object, the character gains a +4 attack bonus and ignores 2 points of hardness.

Normal Aggressive attacks have an attack penalty of –2.

Expert Offensive Form

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form, Rapid Form Focus *or* Precision Form Focus, Intermediate Offensive Form, **and** Rapid Form Expertise *or* Precision Form Expertise

Benefit The character can throw their psiblade or plasblade, which has the same damage, a range of 40', and is considered a Small thrown weapon when used in this manner. Also, when using a psiblade or plasblade, a character may increase the Combat Point cost of a standard melee attack by +1. If they do, they gain a +3 damage bonus for every +1 increase of Combat Point cost. Also, when using a psiblade to attack any object or armor that has plasma damage reduction, the damage given immediately goes into soak and the damage to soak is trippled, even if it does not breach the object or armors damage reduction.

Special As long as a character has Combat Points to spend during their turn, they are free to add to the cost to attack.

Normal Plasma damage that connects with Plasma damage reduction does not move to soak unless the damage is more than the damage reduction.

Rapid Form Master

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form, Rapid Form Focus, Intermediate Offensive Form, Rapid Form Expertise, Expert Offensive Form

Benefit When using a psiblade or plasblade, for every two successful melee attacks a character completes, the character immediately receives one additional attack for no Combat Points. The extra attack is with the same weapon and at the same bonus as the attack as the previous two attacks. Also, the Combat Point Cost to Heavy attack is reduced by 1 and the cost to Full attack is reduced by 2 when using a psiblade or plasblade.

Special This feat's effects replace the Rapid Form Expertise's effects.

Precision Form Master

Prerequisites Psiblade Proficiency *or* Plasma Blade Proficiency, Basic Offensive Form, Precision Form Focus, Intermediate Offensive Form, Precision Form Expertise, Expert Offensive Form

Benefit A character gains an additional +4 attack bonus to all Called Shot attacks against arms and legs made when attacking with a psiblade or plasblade, gains an additional +4 attack bonus to all Called Shot attacks against hands and feet when attacking with a psiblade or plasblade, and gains a +4 attack bonus to all Called Shot attacks against heads. Also, when attacking an object, the character gains a +6 attack bonus and ignores 3 point of hardness.

Chapter IV

Equipment

Bags and Boxes

Hardpack A hardpack is a backpack with a smooth plastic outer shell, used to protect whatever inside from rough handling, falls, slips, and general rough wear. When worn it grants DR1/Bludgeoning against all rear attacks and gives a character a +3 lbs carrying capacity bonus. It can hold 15 lbs of gear that is Medium or smaller size.

Bio Sensor Travel Case This travel case is very much like the plain aluminum travel case, with two major differences. The first is a biometric lock that will only open when the owner, or an authorized person, presses their thumb against the lock, and a ruggedization, to guard against unauthorized entry through bypassing the lock; Disable Device check [TN35], Technology Use check [TN25]; break [TN30]. The Medium sized case can hold 10 lbs of objects that are small or smaller size, and the Large sized cases can hold 40 or 75 lbs of objects that are Large or smaller, depending on which case is selected.

Cryocase This case bears a very similar look to the aluminum cases, only scaled up more so. Inside, however, it is very different. The cryocase is a hermetically sealed, cryogenic case that has an adjustable, built-in life support system. Commonly used for foods with a very short shelf life, it has the fortunate ability to transport people, but not their gear, safely over long distances with no perceived time in between. The cryocase has 10 hours worth of life support when fully charged, before its contents begin to die. Any creature that is in the sealed cryocase when its life support ends immediately begins to suffocate. A large cryocase can fit a Small creature or 100 lbs of objects are Medium or smaller size, a huge cryocase can fit a Medium creature or 200 lbs of objects that are Large or smaller size.

Object	Sz	Wt	Cost	Restr
Hardpack	S	2.0	4	None
Bio Sensor Travel Case, 10 lb. cap	M	4.7	4	None
Bio Sensor Travel Case, 40 lb. cap	L	10.3	8	None
Bio Sensor Travel Case, 75 lb. cap	L	15.3	15	None
Large Cryocase	L	8.0	18	None
Huge Cryocase	H	20.0	24	None

Table 1: Bags and Boxes

Clothing

Interface Jacket An interface jacket is a jacket that has a small built-in computer that can be programmed to display a set of data, pictures, or text via a matrix of display diodes. It can also be interfaced with any other technology that has the ability to output its data. Interface jackets vary wildly in their style, and display type. Some are simply built into an existing jacket, with a set of displaying diodes on the sleeve, while others are covered in display diodes, allowing for scrolling text, flashing colors, and videos. Interface jackets have two pockets than can hold 1.5 lbs of equipment that is Tiny sized or smaller each.

Chill Jacket A chill jacket is a jacket worn by any creature that needs to stay cold, with small cold diffusers built within the lining of the jacket, keeping the wearer cool, while appearing like a normal jacket. For the purpose of polarans, it works as a chill collar, and grants +2 to Fortitude Saving Throws made to resist the effects of hot weather. For anyone else, it will reduce the effects of hot weather as if the wearer were in a single lower level of temperature. This jacket requires a coolant pack to stay cool. The coolant pack lasts indefinitely. Chill jackets have two pockets than can hold 1.5 lbs of equipment that is Tiny sized or smaller each.

Chamelocloak This long cloak is littered with tiny LEDs and sensors that adapt to whatever is nearby. When a character wearing this cloak stops moving for 1 round, the cloak shifts and turns into colors that not only mirror the surrounding area, but compliment it as well. When this happens, the character wearing the cloak gains an immediate +15 bonus on all Stealth checks to avoid being seen. The cloak can also be used to blend in the open, causing a slight optical illusion and an appearance of invisibility. When the cloak is worn normally, it grants a 15% Concealment bonus against all ranged attacks.

Object	Sz	Wt	Cost	Restr
Interface Jacket	M	2.0	10	None
Chill Jacket	M	2.3	5	None
Chamelocloak	M	1.9	35	R

Table 2: Outerwear

Augmentative Vision

Augmentative vision is eyewear that superimposes information over the user's field of vision. This can be anything from directions for cooking to a HUD tracking health, status conditions, and targets. The features available to the set of eyewear is dependent on what kind of modules are installed in the eyewear and what is currently activated. AV hardware has two major areas of module slot storage: RAM and Storage. All AV hardware is controlled through voice commands or through an interfaced device. Augmentative vision are considered computers, and can load software.

The RAM represents how many module slots can be used at the same time. RAM is measured in module slots, and the module uses the same amount of module slots of RAM as it does of hard drive space. When a module is activated, it uses RAM slots equal to how many storage slots it takes up, in RAM. When it is deactivated, it no longer takes up that spot in RAM, but is still located in storage.

The Storage represents how many modules can be stored on the AV hardware at one time. A module is installed onto the storage, and is activated at will. The module will always sit in storage unless it is uninstalled.

All augmentative vision comes with the base software module, that contains the software necessary to load additional modules, as well as a web browser, camera with both normal and UV filters (still and video recording), microphone, bone conduction transducer to play audio to the wearer, an audio and video player, clock, local weather, and a GPS navigation system. It takes up no storage or RAM slots and is always active.

AugGogs Augmentation goggles, or AugGogs as they're more well known, are a simple set of rugged augmentation goggles that are secured with a thick spandex band. They are usually used by

adventurers because of their rugged nature, and their resistance to shock, heat, cold, and general wear.

Smart Glasses Smart glasses are augmentation hardware that has been sleekly concealed in a pair of normal looking eye-glasses. They superimpose all of the information on the glasses, allowing the user to use these glasses in everyday wear, but are not as rugged for rough use.

Scouter A scouter is a piece of augmentation hardware that hooks over the ear and covers one eye. It is made to be there when you need it, and folds up for easy storage when isn't needed.

Augmentation Lenses These are contact lenses that are placed directly on the eye, and can be worn and used without any kind of equipment. Because of this, they lack the speakers that other augmentation hardware have, but are otherwise fully functional. They can not be worn in conjunction with any other augmentation vision hardware, and doing so causes a character to immediately become Sickened and Nauseated for 1d3 hours, but they can be worn with other forms of eye wear, and are completely undetectable.

Object	Sz	Wt	Cost	RAM	Storage	Restr
AugGogs	S	1.0	10	1	4	None
Smart Glasses	T	0.5	25	2	3	None
Scouter	T	0.4	35	3	5	None
Aug. Lenses	F	0.1	60	1	3	None

Table 3: Augmentative Eyewear

MOLLE

Single Coolant Pouch (1 slot) This pouch can hold a single coolant pack.

Dual Coolant Pouch (1 slot) This pouch can hold two coolant packs.

Quad Coolant Pouch (3 slots) This pouch can hold four coolant packs.

Sextuple Coolant Pouch (4 slots) This pouch can hold six coolant packs.

Coolant Chill Pouch (3 slots) This pouch is a portable chiller that can chill up to four coolant packs at one time.

Bot Pouch (3 slots) This is a special pouch that holds two spiderbots, beebots, or hornetbots, and will recharge them while they sit in the pouch. This pouch requires a coolant pack to charge any bots. The coolant pack lasts indefinitely.

Pellet Pouch (1 slot) This pouch holds 6 pellets, keeping them safe from impact.

Object	Sz	Wt	Cost	Restr
Single Coolant Pouch	S	0.5	1	None
Dual Coolant Pouch	S	0.6	2	None
Quad Coolant Pouch	S	0.8	3	None
Sextuple Coolant Pouch	S	1.0	3	None
Coolant Chill Pouch	S	1.3	4	None
Bot Pouch	S	1.6	4	None
Pellet Pouch	S	0.3	1	None

Table 4: MOLLE

Specialty Kits

Microloader Kit The microloader kit is a portable version of the reloading kit, containing a portable press, digital scale, dies, pocket manual, and powder measures, that all fit into a toolbox sized box. It allows a character to reload ammunition.

Plasma Parts Kit A plasma parts kit is a collection of various plasma components, such as emitters, resistors, receivers, frames, screws, cores, and other miscellaneous hardware pieces used for creating plasarms, lasarms, and elarms. Because it has a lot of the necessary components, lots of labor can be saved. A plasma parts kit grants a +20 equipment bonus when building a plasma, laser, or electric weapon, but is consumed after it has been used.

Object	Sz	Wt	Cost	Restr
Microloader Kit	M	5.0	13	None
Plasma Parts Kit	M	10.0	20	None

Table 5: Specialty Kits

Computers and Consumer Electronics

Software Modules

Modules are programs installed that give the user of a computer a bonus to various things, dependent on what they are programmed to do. Modules come in three varieties:

- **Lite** A lite module has the bare essentials necessary for use and has a lighter footprint to take up less space. This module provides a +1 to all bonuses listed in the module description unless specified otherwise and takes up 1 storage slot.
- **Standard** A standard module contains most of the core features that most would find useful, leaving out only a few specialized programs. This module provides a +3 to all bonuses listed in the module description unless specified otherwise and takes up 2 storage slots.
- **Full-featured** Contains all of the features that anyone could ever need or use, sparing no expense. Due to this, they take up a significant amount of space. This module provides a +4 to all bonuses listed in the module description unless specified otherwise and takes up 3 storage slots.

Photography and Videography This module is an upgrade to the base camera software, allowing for advanced focusing, active noise cleaning up, real-time cropping, color filtering, as well as a 2,000× digital zoom, that functions as a microscope and a telescope.

This module has also been programmed to provide its wearer's eyes with UV ray protection, providing a +1 to all Will Saving Throws against blindness as long as the module is active. This module also provides a bonus to Perception and Craft (Visual Art) as long as the module is active.

Translator This module contains a full, real time translator, that allows a character to understand and read, but not speak or write, any one language that it is programmed for. The module must be active in order to be of benefit.

Bot Management Module This module allows the management of spiderbots, beebots, and hornetbots, to control them, as well as interact with any built in hardware that they possess, such as cameras, microphones, or other sensory hardware pieces. This module grants the user the ability to send the bot to a specific geolocation using the GPS, or to a reference point using the bot's camera. The Lite module allows for the control of 2 bots, the Standard module allows for the control of 4 bots, and the Full-featured Module allows for the control of 8 bots.

AI Module This module allows the upload of any level artificial intelligence presence into the augmentative vision wear. Unlike other modules, the AI is always turned on and can not be turned off. The AI can access, use, and manipulate any technology the augmentative vision is linked to, as well as activate or deactivate any other module that is loaded onto the augmentative vision. AIs can also perform actions under the Technology Use skill. When used in this manner, AIs have 8 Combat Points. A level 1 AI can be purchased with this module for +5 WP.

Object	Cost	Restr
Photography/Videography, Lite	2	None
Photography/Videography, Standard	8	None
Photography/Videography, Full	12	None
Translator, Standard	10	None
Bot Management, Lite	3	None
Bot Management, Standard	7	None
Bot Management, Full	14	None
AI, Standard	16	None

Table 6: Software Modules

Survival, Security, and Professional Gear

Emergency Patch Kit

This kit contains an adjustable conductive heat applicator and many segments of material, each impregnated with strong, heat activated adhesives and attached to a long adjustable handle. This kit allows a character to repressurize a compromised spacesuit or MOPP suit. It takes one minute to repair a depressurized or compromised suit. Because the repair is fragile and intended for emergencies, it can't withstand any sort of wear. If the character wearing the repaired suit takes any amount of damage, the suit is again depressurized and compromised.

Med Sprayer

A med sprayer is a device that takes in med cartridges and converts them to a vapor that can be quickly sprayed on an injury in the middle of a conflict to keep an injured individual from expiring, greatly increasing their survivability. A med cartridge is one time use and is usually thrown away after it is used. The med sprayer comes with one cartridge of health spray, one cartridge of clot spray and two cartridges of foamed metal spray.

Health Spray This spray instantly heals 2d10+2 XHP immediately as long as character has at least 1 CHP left. This spray does not stop bleeding.

Clot Spray This spray instantly stops up to 10 points of bleed damage as long as the character still has at least 1 CHP left.

Foamed Metal Spray This spray is a specialty spray specifically designed for synthetics. It is a concentrated, fine metal spray that is used to repair a synthetic's shell quickly. This spray instantly heals 1d4 HP for synthetics as long as the synthetic still has at least 1 CHP left.

Health Analyzer

A health analyzer is a device that is used to quickly assess and aid a medical professional. It reduces the time taken to perform all Treat Injury actions by ¾.

Magic Calculator

A Magic calculator is a calculator created to assist a new mage in creating new spells at an increased rate. Magic calculators come in two forms.

Basic Model This model reduces the time it takes to write magic spells by ½.

Deluxe Model This model reduces the time it takes to write spells by ¾, and grants a +2 bonus to all Spellschools when used.

Smartwatch

A smartwatch is an all in one watch that has a number of uses. It can interface with various pieces of technology to manipulate and control them, display the local time and weather, as well as perform simple calculations, display messages, translate singular words (not powerful enough to be considered fluent in a language), play music and video, and display any vital signs if interfaced with a device that can read as such.

VitalBand

A VitalBand is a piece of medical equipment usually given to hospital patients, but has seen considerable use in the combat field. The VitalBand displays the health of the character, including heart rate, any possible infections, diseases, or affects that the character is currently experiencing. The VitalBand also possesses two autoinjectors, that can be programmed to inject the wearer with any injectable substance when specific conditions are met. The standard conditions are when a character hits 50% of their XHP for the first, and when a character completely runs out of XHP for the second.

Cloaking Belt

A cloaking belt is a belt that, when activated, bends the light around the wearer, rendering them mostly invisible. When activated, it gives a character 45% Concealment, but only through normal vision; thermal, True Vision, and any other kind of visions that don't rely on the standard spectrum are not affected. This belt has enough uses to be used for 10 turns in total before it requires recharging. It takes 1 hour for this belt to be fully recharged.

Rebreather

A rebreather is a small device that is held in the mouth, that allows a creature to breathe underwater for 4 hours at a time by recycling and scrubbing CO_2. After this time, the rebreather stops functioning until it has time to recharge its cells with fresh oxygen, which takes 15 minutes.

Vacuum Bubble

A vacuum bubble is a deployable bubble that, when deployed, completely encloses and protects a single creature from the vacuum and radiation of space. When not deployed, it is in a small canister with a button. To use, the creature holds the canister and presses the button. The bubble deploys from the canister and encapsulates the creature in a self-sealing bubble. There is no exit, and the creature must either be cut from the bubble, or must cut themselves out from the bubble. The bubble also has it's own air supply, and has 12 hours of air available for a single creature. The bubble is one time use only, and may not be reused once cut open.

Chill Collar

A chill collar is a collar that diffuses cold into the bloodstream and cools the core temperature of the creature. Any creature that needs to be cooled will benefit from wearing this collar. The collar can also be purchased in the form of a bracelet or watch for the same price, while high fashion models can cost exponentially more.

Sonicball

A sonicball is a small device that looks like an ordinary ball about the size of a fist. When thrown into a room, it releases an ultrasonic frequency that bounces off all things in the room, followed by an infrared sweep of the room, displaying its contents in an easy to view manner on any technology device with a screen. It can be interfaced with any device that has a screen, such as a tablet, laptop, or augmentative vision. It can scan within a 60' radius of itself, and will determine and display live objects, barriers, and possible hiding spots.

Handheld Grappler

A handheld grappler is a device that has a 60' spool of braided, coated steel wire that is attached to a hook-claw, used to swing, pull, or wrap around objects. It can also be fired in any object with 2 or less Hardness, securing itself to that object. It has a powerful motor that will wind the spool back up at the rate of 15' per turn. The wire can hold up to 400 lbs indefinitely, or up to 500 lbs for 5 turns. It uses 9x19mm blanks to fire the hook-claw, and has an internal magazine of 3. It costs 4 Combat Points to fire the grappler, and when fired at a creature, deals 1d6 slashing damage. A successful attack means that the creature is captured by the grappler.

Shokstrips

Shokstrips are a wire mesh strip with a battery that rolls out to a 5' by 10' rectangle. When activated, either remotely or on the battery case, the shokstrip electrifies the area it's laid in. Any creature that steps in or is caught in the rectangle when it is activated takes 1d6 electricity damage and must make a Fortitude Saving Throw [TN18] or be Paralyzed for 1d3 rounds.

Emergency Air Mask

This air mask is an all-in-one mask that provides 3 hours of breathable oxygen in environments where no breathable oxygen is available. It can be recharged in environments with enough breathable air, and takes 12 hours to recharge.

Condenser-Diluter

This mask takes thin atmospheres and condenses the air into a breathable mixture, where the breathable air is thin. This device also thins out dense air and makes it easier to breathe.

Plastool

A tool-like device with a low powered emitter and plasma core. Unlike plasarms, these are specially built tools that are primarily made for repairs, rapid fabrication in remote locations, and to weld and fuse metal objects, make quick repairs on ships, and a host of other benefits.

Plastools use tool emitters, which are special emitters that will not fit on a plasarm. These emitters are interchangeable and can be swapped for 4 CP. Plastools also use coolant packs like plasarms and can take all of the benefits that coolant packs can give. Plastools come with both Flame and Tool Emitters.

Plastools have different wattage ratings, which can be increased and decreased by the user. This affects the Heat rating. Decreasing or increasing the wattage rating takes 1 minute. A Plastool must be completely cooled from full Heat in order to change wattage.

- **Flame Emitter** This resembles a fusion-powered scramjet with a small hollow tank for heating fuel air. Turns the plastool into a cutting tool suitable for destroying locks, carving holes in metal, and a host of other uses. The plastool may also be used as a simple melee weapon in this fashion. The flame emitter runs on heat, and uses 1 Heat every 6 seconds of use. When using this emitter against an object, the emitter ignores 5 points of Hardness, and rolls the damage for the wattage rating.

- **Repair Emitter** A specialized emitter that that can emulate a vast number of tools. This turns the plastool into a variable toolkit that can be used to Repair using the Craft (Mechanical) and Craft (Structural) skills. The plastool grants its Repair Bonus to these checks for 1 hour per Heat.

Repair Bonus	Wattage	Heat
1d4–1	10kW	10
1d4	15kW	8
1d4+1	25kW	6
2d4	35kW	4
2d4+1	40kW	2

Table 7: Plastool Ratings and Heat

Object	Sz	Wt	Cost	Restr
Emergency Patch Kit	S	1.2	5	None
Med Sprayer	S	1.4	16	None
Health Spray (2)	D	0.4	4	None
Clot Spray (2)	D	0.4	2	None
Foamed Metal Spray (2)	D	0.4	4	None
Health Analyzer	S	0.5	10	None
Magic Calculator, Basic	S	0.5	6	L
Magic Calculator, Deluxe	S	1.0	24	L
Smartwatch	T	0.3	16	None
VitalBand	T	0.8	18	None
Cloaking Belt	S	2.0	40	R
Rebreather	T	0.3	12	None
Chill Collar	T	0.3	1	None
Vacuum Bubble	T	0.7	2	None
Sonicball	S	1.1	20	None
Handheld Grappler	S	1.1	10	None
Shokstrips	S	0.8	4	None
Emergency Air Mask	T	0.6	3	None
Condenser-Diluter	T	0.2	2	None
Plastool	S	1.3	25	None

Table 8: Survival, Security, and Professional Gear

Spiderbots, Beebots and Hornetbots

Spiderbots, beebots, and hornetbots are small, semi-sentient robots that can perform a variety of simple tasks. Spiderbots, beebots, and hornetbots have two modes; Deployed and Storage. In Storage mode, a spiderbot looks like a metal puck, about the size of a large hockey puck, while a beebot or hornetbot looks like a round ball, about the size of a softball. When deployed, spiderbots take on the appearance of a little metal spider, complete with 8 wire legs and a single, glowing LED eye, while hornetbots and beebots take on the appearance of a large bee or hornet, complete with clear translucent wings, 6 wire legs, and a single glowing LED eye. Spiderbots, beebots, and hornetbots can turn off their LED eye at their own choosing, or at a command by their handler. They are usually black, but a spiderbot, beebot, or hornetbot can be purchased in any color configuration.

All spiderbots, beebots, and hornetbots are equipped with a basic camera right under the eye and a microphone, and can respond to verbal commands in a single language that is selected when the bot is purchased. Spiderbots, beebots, and hornetbots can respond to commands as if they were an animal under the Animal Handing skill, but Animal Handling skill is not required to command and manage a spiderbot, a hornetbot, or a beebot. A spiderbot, hornetbot, or beebot can respond to Attack (If it possesses an upgrade that allows it to attack) Come, Defend (If it possesses an upgrade that allows it to attack), Guard (if it possesses an upgrade that allows it to attack), Heel, Fetch (if it possesses an upgrade that allows it to pick up objects), Stay, and Seek. Spiderbots have 8 CP per turn, can walk and adhere to walls and ceilings, while beebots and hornetbots have 7 CP per turn and can walk and fly up to 25' from the ground.

Spiderbots, hornetbots, and beebots can have upgrades installed on them, that can enhance their utility. Basic model spiderbots, hornetbots, and beebots can have one upgrade installed on them at one time, Standard model spiderbots, hornetbots, and beebots can have two, and Deluxe models can have three. Spiderbots have 3 HP, a DEF of 14, and 8 CP. Beebots and hornetbots have 1 HP, a DEF of 15, and 7 CP. A spiderbot, beebot or hornetbot can function for 8 hours before it needs to be recharged. Spiderbots, beebots, and hornetbots can be interfaced. It takes 5 minutes for upgrades to be replaced, installed or uninstalled.

Speaker Upgrade This upgrade gives the bot speakers that allow it to play music, as well as give it a voice that can speak the same language that it has installed. The type of voice is determined by the purchaser.

Language Upgrade This upgrade gives the bot the ability to understand two additional languages, and if it has the speaker upgrade, to speak those languages as well.

Ballistic Stinger Upgrade This upgrade gives the bot the ability to fire a bullet at a target. This upgrade uses ammunition, and must be reloaded by the owner. The bot cannot reload its ammunition. The bot has a +2 attack bonus, and using this attack costs 5 CP and has a range of 20', an internal magazine of 4, and a caliber of 9x19mm (2d6/-2). The bot can take advantage of any effects of ammunition type.

Plasma Stinger Upgrade This upgrade gives the bot the ability to fire a bolt of plasma at a target. This upgrade uses coolant packs, and must be reloaded by the owner. The bot cannot reload its coolant pack. The bot has a +2 attack bonus, and using this attack costs 5 CP and has a range of 25', a Heat rating of 10, and a wattage of 10 kW (1d8-2). The bot can take advantage of any effects coolant packs may give.

Laser Stinger Upgrade This upgrade gives the bot the ability to fire a laser at a target. This upgrade uses coolant packs, and must be reloaded by the owner. The bot cannot reload its coolant pack. The bot has a +2 attack bonus, and using this attack costs 5 CP and has a range of 15', a Heat rating of 6, and a wattage of 25 kW (1d8+1). The bot can take advantage of any effects coolant packs may give.

Electric Stinger Upgrade This upgrade gives the bot the ability to fire a bolt of electricity at a target. This upgrade uses coolant packs, and must be reloaded by the owner. The bot cannot reload its coolant pack. The bot has a +2 attack bonus, and using this attack costs 5 CP and has a range of 10', a Heat rating of 2, and a wattage of 40 kW (2d8+1). The bot can take advantage of any effects coolant packs may give.

Taser Stinger Upgrade This upgrade gives the bot the ability to fire a taser stinger at a target. This upgrade uses standard taser cartridges, and must be reloaded by the owner. The bot cannot reload its taser cartridge. The bot has a +2 attack bonus, and using this attack costs 5 CP and has a range of 10'. On a successful

hit, the target must make a Fortitude Saving Throw [TN15] or be Paralyzed for 1d6 rounds.

Tranquilizer Dart Stinger Upgrade This upgrade gives the bot a launchable tranquilizer dart launcher, that can be loaded with a pre-filled tranquilizer dart. The bot cannot reload its tranquilizer dart. The bot has a +2 attack bonus, and using this attack costs 5 CP and has a range of 10'. On a successful hit, the effects of the contents of the dart begin to take effect.

Stun Bite Upgrade This upgrade gives the bot a pair of stun fangs, that it can use to attack any adjacent target. The bot has a +2 attack bonus, and using this attack costs 4 CP. On a successful hit, the attack deals 1d3 electricity damage and the target must make a Fortitude Saving Throw [TN15] or be Paralyzed for 1d6 rounds. Only spiderbots may take this upgrade.

Injector Bite/Sting Upgrade This upgrade gives the bot a pair of injector fangs, or a injector stinger, that can be used to carry one dose of any injected medicine, poison, or any liquid, and can be used to attack any adjacent target. The bot has a +2 attack bonus, and using this attack costs 4 CP. If the bot possesses the Liquid Tank upgrade, it can draw from this as a reservoir for additional doses.

Spines Upgrade This upgrade gives the bot a set of needle-like spines in its abdomen, that can be extended and retracted, allowing it to function like a caltrop. Any creature that steps into the square the bot is occupying immediately receives 1d4 piercing damage. The bot can retract and extend the spines for no CP cost. Only spiderbots may take this upgrade.

Sawblade Upgrade This upgrade gives the bot a spinning saw that it can extend from its abdomen, allowing it to cut objects such as rope or wood, or use it for attacking. The bot has a +2 attack bonus, and using this attack costs 3 CP. On a successful hit, the attack deals 1d6 slashing damage. Only beebots and hornetbots may take this upgrade.

Advanced Camera Upgrade This upgrade gives the bot an advanced camera, that includes lenses for infrared and ultraviolet modes, as well as a night vision camera, allowing it to see in near and complete darkness.

Advanced Sensors Upgrade This upgrade gives the bot a barometer, a thermometer, a Geiger counter, an altimeter, a speedometer, an airborne chemical scanner (Both organic and inorganic), a sonar and radar, a seismometer, a magnetometer, and a hydrometer.

Extra Battery Upgrade This upgrade gives the bot an additional battery, giving it 16 additional hours of runtime before it needs to be recharged.

Self Destruct Upgrade This upgrade arms the bot with a store of C4. The bot can be instructed to destruct on command, or on the trigger of a specific act (similar to how readied action performs) such as its tripwire being hit, or on the sense of motion within its field of view. When triggered the bot explodes, causing 3d10 concussion damage within a 10' radius of itself.

Wire Upgrade This upgrade gives the bot 20' of thin wire in its abdomen, that allows it to hang itself from the ceiling, walls, or suspend an object of its weight or less from itself, as well as make tripwires. Only spiderbots may take this upgrade.

Sticky Goo Sprayer This upgrade gives the bot a canister of sticky goo that can be used to coat a 5' square in front of it with a super sticky clear contact adhesive. Any creature (except the bot that placed it) that steps into the square stops their movement immediately and cannot move. The creature can spend 10 CP to make an Athletics check [TN15] or an Acrobatics check [TN20] to break free of the adhesive. The canister has enough shots for 4 applications before needing to be reloaded by its owner. Replacement canisters costs 1 WP.

Radio Upgrade This upgrade gives the bot a multi-channel radio receiver and broadcaster, allowing it to tap into FM, AM, CB, Shortwave, VHF, UHF, and private police channels, to both broadcast and receive radio signals. It also adds the ability to connect to Bluetooth devices to be used as a remote radio, as long as it is within a 25' radius of the Bluetooth headset.

Liquid Tank Upgrade This upgrade gives the bot an airtight, pressurized tank that can hold 1 unit of any liquid. The tank has a glass lining, that allows it to hold corrosive liquids as well. It also equips the bot with a variety of sprayers, allowing it to spew the liquid from its front in a variety of ways, as well as a suction tube that allows it to draw liquid within itself for later use.

Storage Tank Upgrade This upgrade gives the bot a small storage compartment in its abdomen. It can hold .5 lbs worth of equipment that is Tiny or smaller.

Waterproofing Upgrade This upgrade outfits the bot in a rubberized, airtight seal that lets it be completely submerged in liquids without being damaged. It also grants the bot an air-bladder in its abdomen that can be used to regulate its height in the water and cause it to float or sink at will.

Burrow Upgrade This upgrade outfits the bot's legs with shovels that grant it the ability to burrow up to 10' deep in any soft, movable terrain, such as dirt, snow or small rocks. Only spiderbots may take this upgrade.

Parachute Upgrade This upgrade gives the bot a small parachute that it can deploy to slow its decent to the ground, then retract for reuse.

Flashlight Upgrade This upgrade replaces the bot's lone LED eye with an array of superbright color LEDs, that can be used to illuminate a 20' cone in front of the spider in a variety of colors and flash in a strobe or pattern.

Armor Upgrade This upgrade outfits the bot with a heavier, more armored chassis that grants it +10 HP.

Turbo Upgrade This upgrade increases the speed of a bot, at the cost of it's battery life. It grants the bot a movement speed of 10' per 1 CP, but reduces it's battery life by half.

Aerosol Upgrade This upgrade outfits the bot with a high powered aerosol mister, that will create a cloud of mist from one dose of any inhaled medicine, poison, or any liquid. It covers a 5' burst radius centered on the bot's location. If the bot possesses the Liquid Tank upgrade, it can draw from this as a reservoir for additional doses.

Spool Upgrade This upgrade outfits the bot with a spooler in its abdomen, that allows it to disperse spools of line, such as fishing line, string, thin rope (20 pounds before breaking), or det cord and cut it. It can carry 30' of cord or line. Only spiderbots may take this upgrade.

Clamp Upgrade This upgrade outfits the bot with a clamp on its abdomen, that allows it to pick up tiny or smaller objects that weight 1.0 lb or less under it, and carry it around unhindered.

Grenade Harness Upgrade This upgrade outfits the bot with a grenade harness on its abdomen. The bot can be instructed to pull the pin on the grenade on command or on the trigger of a specific act (similar to how a readied action performs) such as its tripwire being hit, or on the sense of motion within its field of view. When the pin is pulled the grenade immediately falls to the ground, breaking free from the harness.

Object	Sz	Wt	Cost	Restr
Basic Spiderbot, Beebot, or Hornetbot	S	2.5	4	None
Standard Spiderbot, Beebot, or Hornetbot	S	2.3	6	None
Deluxe Spiderbot, Beebot, or Hornetbot	S	2.0	13	None
Bot Upgrades				
Speaker	—	0.3	1	None
Language	—	—	2	None
Ballistic Stinger	—	0.5	16	L
Taser Stinger	—	0.3	12	L
Laser Stinger	—	0.3	18	L
Plasma Stinger	—	0.3	18	L
Electric Stinger	—	0.3	18	L
Tranquilizer Dart Stinger	—	0.5	7	None
Stun Bite	—	0.3	8	L
Injector Bite	—	0.2	3	None
Spines	—	0.5	2	None
Sawblade	—	0.4	2	None
Advanced Camera	—	0.1	5	None
Advanced Sensors	—	0.5	8	None
Extra Battery	—	1.0	6	None
Self Destruct	—	0.3	3	M&P
Wire	—	0.4	3	None
Sticky Goo	—	0.5	2	None
Radio	—	0.6	4	None
Liquid Tank	—	0.2	3	None
Storage Tank	—	0.2	3	None
Waterproofing	—	0.5	9	None
Burrow	—	0.4	2	None
Parachute	—	0.1	2	None
Flashlight	—	0.1	1	None
Armor	—	1.0	5	None
Turbo	—	0.2	3	None
Aerosol	—	0.3	4	None
Spool	—	0.6	3	None
Clamp	—	0.4	4	None
Grenade Harness	—	0.4	6	None

Table 9: Bots and Bot Upgrades

Medicines & Narcotics

Biofoam Originally invented as a biodegradable insulation and binding agent, Biofoam has evolved to be used to fill in lacerations, pad broken bones, and hold tissues together before slowly being consumed by the body itself, harmlessly.

Using biofoam requires a Treat Injury check [TN5] that costs 8 CP. If the check is successful the target stops bleeding and for every 5 points the roll exceeds the TN the target heals 1d4 XHP. You can take 10 on this check, but not 16/18. Biofoam is packaged in a single use canister.

Boost A thick grey liquid that is used by soldiers, adventurers, and criminals to increase their combat effectiveness for a short amount of time. It is a diluted version of Juice that is marketed as a safer alternative.

A character may inject themselves or be injected with one dose of Boost to gain 1d3 additional CP every round for 1 minute. The character may inject subsequent doses to lengthen the time this bonus lasts by 1 minute, but it does not grant any additional Combat Points. After each dose is injected, a character immediately makes a Fortitude Saving Throw [TN5]. If a character fails this Saving Throw they take CHP damage equal to the Combat Point bonus they received. The TN increases by 5 for each dose of Boost or Juice taken within 3 weeks of the first dose. Boost is packaged in single dose ampoules.

Day-glo DGBX (more commonly known as Day-glo) is an optical drug that is one of the byproducts of making Moonbeam, that is taken by dropping the liquid directly into the eyes.

A character may use one eyedropper, granting Darkvision for 1d4+1 minutes. During this effect, the character is Blinded in normal light if they are not wearing welding goggles, sunglasses, or any other type of equipment that dims lighting until they are no longer in normal light. A character that is hit by a stun grenade, illusionary effect, or anything that would require a roll to resist blindness or cause blindness is immediately Blinded for the duration of the effect, regardless of any protective equipment. After 1 use a character must make a Fortitude Saving Throw [TN5] or go blind permanently. This TN increases by 5 for each dose of Day-glo taken within 3 weeks of the first dose. Day-glo is packaged in single-use eyedropper bottles.

Moonbeam A glowing blue lotion-like substance that is rubbed directly into the skin to cause a euphoric feeling and a mental and physical fortification.

A character may apply one dose of Moonbeam to their skin, granting them a +4 bonus to Will and Fortitude Saving Throws for 1d4 hours. The character may also apply more, which will add one hour to the duration and a +1 bonus to both Saving Throws. When the effect wears off, the character makes a Will Saving Throw [TN10] and a Fortitude Saving Throw [TN10], that has an increase of the TN by 1 for every previous application within 3 weeks of the last use, and by 2 for every previous application while the character was still under the effects of the drug. If a character fails the Will Saving Throw, they take temporary WIS damage equal to the bonus they received. If the character fails the Fortitude Saving Throw, they take temporary CON damage equal to the bonus received. The character can rest for 4 hours per point of damage taken to recuperate or receive long term care from a character who must make a Treat Injury check on them to reduce the time needed to rest by half. Moonbeam is packaged in a tube or small jar that holds enough for 10 doses.

Jazz A thick blue liquid used by academics, engineers, and mages as a study aid and performance enhancer.

A character may inject or be injected with one dose of Jazz to halve the time it takes to complete any Craft, Disable Device, Technology Use, or Demolitions check. This effect lasts for 12 hours per dose. After each injection, a character makes a Fortitude Saving Throw [TN17] to avoid taking a –4 penalty to all Craft, Disable Device, or Demolitions checks. This penalty lasts for 1 week after Jazz was taken, and each dose before that time resets the time and increases the penalty by –4. Jazz is packaged in single dose ampules.

Juice A thick white liquid used by only the most disciplined of soldiers and adventurers to push themselves to the upper limits of their combat effectiveness or fools who believe they are disciplined and strong enough to handle it.

A character may inject themselves or be injected with one dose of Juice to gain 2d3 additional Combat Points every round for 2 minutes. The character may inject subsequent doses to lengthen the time this bonus last by 1 minute, but does not grant any additional Combat Points. After each dose is injected, a character immediately makes a Fortitude Saving Throw [TN15]. If a character fails this Saving Throw, they take CHP damage equal to the Combat Point bonus they received. The TN increases by 5 for each dose of Juice or Boost taken within 6 weeks of the first dose. Juice is packaged in single dose ampules.

StikStick A StikStick is a one-time use pen that contains a single dose of any liquid drug or poison. It costs 4 CP to use. Each StikStick is a single-use vacuum-sealed injection unit, much like an epinephrine pen used for severe allergies, that is filled with any drug that can be injected. Injecting one's self or another cost 4 CP. Injecting an unwilling target additionally requires a successful melee attack roll with the StikStick. StikSticks are packaged in sterile packs that hold 4 individually packaged StikSticks.

NanoMed NanoMed is a clear liquid with glints of tiny nanobots suspended within it. It is used as a stave off against possible future damage, by having nanobots repair internal injuries. A character may inject or be injected with one dose of NanoMed. When they receive any piercing, slashing, or ballistic damage to their CHP, they immediately heal 1 damage per turn, until they no longer have any injuries. After they have healed a total of 10 HP, the nanobots have exhausted their supply of medicine and are no longer effective. Taking more Nanomed before the first dose completely refreshes the clock and the total count of healed HP back to 0. NanoMed lasts for 3 hours, before the nanobots are flushed completely from an individual's system. NanoMed is packaged in single dose ampules.

Stim A thick red liquid used by both field medics, paramedics, and street healers to quickly save a character from the clutches of death or poison. A character may inject or be injected with one dose of Stim to regain 1d4 CHP. If that character is Dying, they are immediately stabilized with 1 point of CHP. If a character is Poisoned, the effects of the poison are suspended for 1d3 minutes. After each injection, a character makes a Fortitude Saving Throw [TN15]. If the character fails this Saving Throw, they take 1 WIS damage. Stim is packaged in single dose ampules.

Object	Sz	Wt	Cost	Restr
Biofoam	S	0.5	2	None
Boost	D	0.1	3	L
Day-glo	D	0.1	3	I
Jazz	D	0.1	5	I
Juice	D	0.1	7	R
Moonbeam	T	0.3	3	R
StikStick (4)	T	0.5	2	None
NanoMed	D	0.1	15	None
Stim	D	0.1	2	L

Table 10: Equipment, Narcotics

Trade Goods

Trade goods are any goods that can be traded for money and are usually in good demand in most locations. Due to their size, they require transportation in order to be taken advantage of. When purchasing trade goods, they must also be purchased in a container or one must be furnished to store them. When storing trade goods, calculate to the closest whole good that can fit in the container. Goods uncommon to the area are double the worth, and goods rare to the area are triple the worth.

Containers

Trade good containers are containers that are used to store trade goods in such a manner that they can be handled, sold, and transported without damage or spoilage of the trade good.

Jars

A rigid, approximately round cylinder with a wide mouth. Typically made of glass, plastic, or ceramic. Holds liquids only. The listed information is for a single jar.

Bottles

A rigid container with a body that is wider than its mouth. Typically made of glass, plastic, or metal. Holds liquids only.

Cask

A medium-sized cylindrical container with a stopper. Typically made of wood, but metal ones are not uncommon. Holds liquids only.

Kegs

A large cylindrical container with a stopper. Typically made of wood or metal. Holds liquids only.

Barrel

A huge cylindrical container with a stopper. Almost exclusively made of wood, metal, or plastic. Holds liquids only.

Tank

An airtight tank used to hold various liquids. They are made of plastic. Holds liquids only.

Fuel Tank

An airtight tank used to hold various fuels, both liquid and gas. They are made of metal and are usually rather hearty.

Crates

A robust container with a lid, usually made of wood, steel, or plastic. Tiny crates can hold Small or smaller sized objects, Small crates can hold Medium sized objects or smaller, medium crates can hold Large sized objects or smaller, and Large crates can hold Huge sized items or smaller.

Cryocrate A crate with a cryogenic storage system built into it. Preserves any trade goods that are placed in it through freezing. When using this crate for transportation, all trade goods last 4 times as long as they would normally.

Safetycrate A crate that has been reinforced to survive both external and internal explosions and damage. Used to transport dangerous equipment, such as dangerous animals or explosives.

Object	Sz	Wt	Holds	Cost	Restr
Jar (2)	S	1.0	2 units	1	None
Bottle	S	1.0	4 units	1	None
Cask	M	16.0	16 units	2	None
Keg	L	80.0	80 units	4	None
Barrel	H	600.0	600 units	8	None
Tiny Tank	M	800.0	800 units	10	None
Small Tank	L	8,000.0	8,000 units	20	None
Medium Tank	H	16,000.0	16,000 units	25	None
Large Tank	G	24,000.0	24,000 units	35	None
Small Fuel Tank	L	8,000.0	4,000 units	20	None
Medium Fuel Tank	H	16,000.0	8,000 units	25	None
Large Fuel Tank	G	24,000.0	12,000 units	35	None
Tiny Crate	M	100.0	100.0 lb	1	None
Small Crate	L	2,000.0	2,000.0 lb	5	None
Medium Crate	H	4,000.0	4,000.0 lb	8	None
Large Crate	G	6,000.0	6,000.0 lb	12	None
Tiny Cryocrate	M	100.0	50.0 lb	5	None
Small Cryocrate	L	2,000.0	1,000.0 lb	10	None
Medium Cryocrate	H	4,000.0	2,000.0 lb	16	None
Large Cryocrate	G	6,000.0	3,000.0 lb	26	None
Tiny Safetycrate	M	100.0	50.0 lb	5	None
Small Safetycrate	L	2,000.0	1,000.0 lb	10	None
Medium Safetycrate	H	4,000.0	2,000.0 lb	16	None
Large Safetycrate	G	6,000.0	3,000.0 lb	26	None

Table 11: Containers

Spirits, Brews, and Wines Spirits are liquids with a high alcoholic content, such as whiskey, rum, vodka, brandy, tequila, or gin. Brews include ales, lagers and other brewed drinks, such as mead. Wines are drinks made from fermented fruits, such as grapes, cherries, or other fruits with a high sugar content. Spirits, brews, and wines may only be stored in jars, bottles, casks, kegs, or barrels.

Object	Unit	Cost	Restr
Poor Quality	1	1	None
Mediocre Quality	1	3	None
Good Quality	1	8	None
Great Quality	1	10	None
Exquisite Quality	1	20	None
Perfect Quality	1	50	None

Table 12: Spirits, Brews, & Wines

Water and Ice The life sustaining liquid that nearly all creatures need to survive. Ice is the frozen version of water, stored in cryocrates instead of liquid containers. Water is extremely important to life, and is essential to locations that are dry or artificial locations such as space stations and outposts. The quality of water or ice denotes how much it has been filtered. Water may only be stored in jars, bottles, casks, kegs, tanks, or barrels. Ice may only be stored in cryocrates.

- Poor water is taken directly from the source with no filtration.
- Mediocre water has had some simple purification, such as being strained through rocks to remove sediment.
- Good water has been strained and boiled.
- Great water has been strained, boiled, and passed through a carbon filter.
- Exquisite water has gone through reverse osmosis to make it more palatable and as safe as physically possible.
- Perfect water is exquisite water that has also been passed through an ionizer, as well as UV and IR filters resulting in some of the best water available.

Object	Wt/Unit	Cost	Restr
Poor Quality	80.0/160	1	None
Mediocre Quality	40.0/80	1	None
Good Quality	24.0/48	1	None
Great Quality	8.0/16	1	None
Exquisite Quality	8.0/16	5	None
Perfect Quality	8.0/16	20	None

Table 13: Water and Ice

Dry Consumables Dry consumables include dry staples such as wheat and corn, nuts, sugar, coffee, and spices as well as dried fruits and vegetables. Tobacco and some candies are also included in this. Dry consumables have a NV of 4 per 1.0 lb.

Object	Wt	Cost	Restr
Poor Quality	0.5	1	None
Mediocre Quality	0.5	3	None
Good Quality	0.5	8	None
Great Quality	0.5	10	None
Exquisite Quality	0.5	20	None
Perfect Quality	0.5	50	None

Table 14: Dry Consumables

Processed Consumables Processed consumables includes smoked, cured, or preserved meats created from various animals, as well as canned, preserved, or vacuum sealed vegetables and fruits. Processed consumables have a NV of 6 per 1.0 lb.

Object	Wt	Cost	Restr
Poor Quality	1.0	2	None
Mediocre Quality	1.0	5	None
Good Quality	1.0	10	None
Great Quality	1.0	16	None
Exquisite Quality	1.0	25	None
Perfect Quality	1.0	45	None

Table 15: Processed Consumables

Produce and Perishables Produce and perishables includes various fresh vegetables, fruits, cheeses, and some candies such as chocolate. Unlike other trade goods, produce will spoil if not used. Produce and perishables can last two weeks from its purchase date before it is spoiled and becomes worthless. Candy is an exception to this, in that it can last 1 month before it spoils. Produce and Perishables have a NV of 10 per 1.0 lb.

Object	Wt	Cost	Restr
Poor Quality	1.0	1	None
Mediocre Quality	1.0	2	None
Good Quality	1.0	4	None
Great Quality	1.0	8	None
Exquisite Quality	1.0	16	None
Perfect Quality	1.0	32	None

Table 16: Produce & Perishables

Textiles and Furs Textiles and furs include all soft goods such as linens, leathers, scales, silks, animal furs and other cloths. They are packaged in lengths of 3 yards of cloth or one fur pelt.

Object	Wt	Cost	Restr
Poor Quality	1.0	1	None
Mediocre Quality	1.0	3	None
Good Quality	1.0	5	None
Great Quality	1.0	11	None
Exquisite Quality	1.0	18	None
Perfect Quality	1.0	25	None

Table 17: Textiles & Furs

Live Animals Live animals include animals used as beast of burden, common and exotic pets, and domesticated animals for food and food production. The weight of the animal varies, but the smallest singular animal's weight is listed. Live animals may only be stored in crates or cryocrates. Live animals have a NV of 4 per 1.1 lb.

Object	Wt	Cost	Restr
Poor Quality	1.1	1	None
Mediocre Quality	1.1	2	None
Good Quality	1.1	6	None
Great Quality	1.1	20	None
Exquisite Quality	1.1	45	None
Perfect Quality	1.1	95	None

Table 18: Live Animals

Raw Materials Raw materials include goods such as lumber, various types of stone, and metal ores that are used for processing, manufacturing, and the creation of goods.

Object	Wt	Cost	Restr
Poor Quality	1.0	1	None
Mediocre Quality	1.0	2	None
Good Quality	1.0	4	None
Great Quality	1.0	10	None
Exquisite Quality	1.0	16	None
Perfect Quality	1.0	30	None

Table 19: Raw Materials

Technology Technology includes various complete circuit boards, as well as key components for technology, including semiconductors, displays, antennas, power sources such as fuel cells and batteries, transistors, resistors, switches, buttons, transformers, motors and other types of electronic components.

Object	Wt	Cost	Restr
Poor Quality	0.1	3	None
Mediocre Quality	0.1	7	None
Good Quality	0.1	15	None
Great Quality	0.1	31	None
Exquisite Quality	0.1	70	None
Perfect Quality	0.1	120	None

Table 20: Technology

Fuel Fuel includes liquid fuels such as petrol, kerosene, diesel and natural gas, gaseous fuels such as propane, methane, hydrogen and natural gas, and solid fuels such as coal, peat, charcoal, wood pellets, or coke. By nature, fuel is naturally explosive, and sustained damage to the holding tanks can cause an explosion that can destroy the vehicle carrying it. Liquid and gaseous fuels may only be stored in fuel tanks. Solid fuels may only be stored in safetycrates.

Object	Wt/Unit	Cost	Restr
Poor Quality	16.0/128	1	None
Mediocre Quality	16.0/128	2	None
Good Quality	16.0/128	4	None
Great Quality	8.0/64	10	None
Exquisite Quality	4.0/32	16	None
Perfect Quality	2.0/16	30	None

Table 21: Fuel

Consumer Goods Objects such as books, movies, toys and gadgets, simple tools, finished clothing, and any other goods that a consumer would want to purchase for everyday life. The higher the rating, the more fine the goods.

Object	Wt	Cost	Restr
Poor Quality	1.0	1	None
Mediocre Quality	1.0	3	None
Good Quality	1.0	5	None
Great Quality	1.0	11	None
Exquisite Quality	1.0	18	None
Perfect Quality	1.0	25	None

Table 22: Consumer Goods

Courier Goods Objects such as letters, packages, documents, and other bulk mail. The higher the rating, the faster they must be delivered. Unlike other trade goods, these goods have a definite destination, and when delivered, will always profit the trader by 25%. (Multiply the cost spent by 1.25). Courier goods may only be stored in crates. Failure to deliver them in the time allotted may come with a fine.

Object	Wt	Cost	Restr
Poor Quality	1.0	1	None
Mediocre Quality	1.0	3	None
Good Quality	1.0	5	None
Great Quality	1.0	11	None
Exquisite Quality	1.0	18	None
Perfect Quality	1.0	25	None

Table 23: Courier Goods

Waste Goods Waste goods are byproducts of habituated planets and facilities, produced by living creatures. Waste includes solid waste that isn't usable in a secondary market, such as byproducts of construction and consuming, used solvents dosed with dangerous chemicals, useless reaction byproducts, and tainted or compromised glassware. Unlike other trade goods, these goods grant WP instead of costing, and generally cost to be offloaded. The quality of the waste also indicates how easy the waste is to handle. Higher quality waste is easier to handle, and thus provides less gain. Waste must be stored in safetycrates.

Object	Wt	WP Gain	Restr
Poor Quality	1,000.0	6	None
Mediocre Quality	1,000.0	5	None
Good Quality	1,000.0	4	None
Great Quality	1,000.0	3	None
Exquisite Quality	1,000.0	2	None
Perfect Quality	1,000.0	1	None

Table 24: Waste Goods

Weapons, Ammunition, and Explosives Weapons and ammunition include weapons of all types, everything from swords and shields to plasarms and lasarms. Ammunition includes cased and shelled rounds, caseless full magazines, coolant packs, and various other non-ballistic ammunition. Explosives include both raw material explosives, premade charges, and explosive ammunition such as grenades and grenade ammunition. When purchasing weapons as a trade good, there is a 5% discount per weapon. Cased and shelled ammunition has a minimum purchase of 5,000 rounds, caseless magazines have a minimum purchase of 50 magazines, and non-ballistic ammunition has a minimum purchase of 4,000 pieces of the selected ammunition. Explosives have a minimum

purchase of 20 pieces. Coolant packs have a minimum purchase of 250 pieces. Weapons and ammunition may only be stored in crates, cryocrates, or safetycrates. Explosives may only be stored in safetycrates. The restriction rating on weapons, ammunition and explosives varies greatly due to where the weapons are coming from, and where they are going to. Refer to the law level of a planet for the restriction rating and possible modifiers for the purchase and sale cost.

Medicines and Narcotics Medicines and narcotics include various pharmaceuticals for medical services, as well as illicit drugs for recreational use. When purchasing medicines and narcotics as trade goods, there is a 40% discount on the total purchase cost, but there is a minimum of 500 pieces of medicine or narcotics that must be purchased.

Augmentations

Augmentations, or Augs, are replacement body parts that can be upgraded or equipped with different upgrades, as well as enhance a character's strength and speed but can affect and interfere with a character's attunement to Magic, Psionics, or Invoking. When an augmentation is taken, the Mental Limit of a character is reduced, based on what augmentation is taken, and how many are taken. The Mental Limit formula becomes **(((6 + WIS Score) × Character Level) + 40) - Augment Penalties**. A character's Mental Limit can be reduced below zero using this method.

Certain augmentations, because of their replacement, also interfere with tattooing spells on one's body. A character that receives an arm or leg augmentation loses space for a tattoo, but gains space for an engraving. Each arm removed removes 1 spot for a tattooed spell, and each leg removed removes 2 spots for a tattooed spell. This space instead may have spells engraved on it.

Augmentations exist for a few select body parts, these include the Skull, Arms, Legs, and Core, and all augmentations can be interfaced.

Cyberlimbs and Extremity Damage

When organic limbs are exchanged for mechanical ones, the way one recovers from damage differs. Instead of spending weeks in recovery, a character with a cyberlimb can have it repaired or repair it themselves if they possess at least one working hand. The TNs for repairing a damaged limb are Craft (Mechanical) [TN25], Craft (Electronics) [TN25], and Craft (Structural) [TN20]. All three checks must be completed in order for the limb to become functional again.

Skull

The skull is the bony structure that supports the structures of the face and forms a cavity for the brain. This augmentation point can support one augmentation at a time.

Neural Computer This augmentation implants a computer inside of the skull that can be accessed using only the user's mind. This computer is considered to have a +3 upgrade that grants a +3 equipment bonus to all Technology Use checks, and when this computer is used for Technology Use checks, the time taken to do all actions is quartered. This computer can not be upgraded.

Internal Augmentative Vision This augmentation implants two cybernetic eyeballs into the user's eye sockets, that can accept augmentation modules, just as regular augmentative vision equipment can. The power, capacity, and Mental Limit reduction is dependent on what kind of augmentation is taken. A character can also take only one eye, and effectively halve all values and the cost, rounded down.

Tactical Application Vision This augmentation implants a cybernetic eyeball that has built-in night and thermal vision, allowing them the benefits and penalties this equipment would give as if it were worn. This augmentation also has a 1.5× magnifier, allowing all weapons without magnified sights to be used as if they were. Any weapon that can not use the benefit of 1.5× telescopic sights instead takes the highest benefit granted to them.

Backscatter Vision This upgrade grants the character the ability to see through light materials such as clothing, light cloth, paper, and thin plastics to detect weapons and explosives. It can not see through flesh (allowing a character to close their eyes without issue), metals, brick, or walls. It has a range of 30' and any object beyond that is immediately invisible to the character while this upgrade is active. A character can also take only one eye and halve the ML reduction and the cost, rounded down.

Augmentation	RAM	Storage	ML	Cost	Restr
Neural Computer	—	—	–15	90	None
Int. Aug Vision, Basic	2	4	–6	50	None
Int. Aug Vision, Standard	2	6	–8	80	None
Int. Aug Vision, Professional	2	8	–10	125	None
Int. Aug Vision, Custom	3	5	–12	140	None
Tactical Application Vision	—	—	–10	140	L
Backscatter Vision	—	—	–16	150	R

Table 25: Skull Augmentations

Arms

The arms are the upper appendages on sentient creatures used for holding tools, weapons, communicating and a host of other utilitarian and pleasure activities. A character can have no more than two types of augmentations at one time, one per arm. A character can also take only one arm and effectively halve all values and the cost, rounded down.

Standard Cyberarms A cyberarm is a replacement limb for a limb that has been lost or otherwise amputated. They come in various stylings and brands, but the standard composition of a cyberarm is a steel body that protects the sensitive, inner servo motors, cyberfluid, and the tendons inside that cause the flexing and moving of the cyberarm. A standard cyberarm usually replaces an arm from the shoulder all the way down to the hand and has the same range of motion as a standard limb and can accept three upgrades per limb.

Strength Servo Cyberarms This cyberarm has upgraded servos and tendons, that enhance its torque output. This grants a bonus to the character's STR score, that can be applied to either FOC or POW, but causes a deficiency in DEX due to the lack of fine motor control. The amount of increase and deficiency and the amount of upgrade slots depends on the level of the cyberarm.

Dexterity Servo Cyberarms This cyberarm has upgraded servos, tendons and controller computers, that enhance its sensitivity and calibration to allow for finer control of the limbs. This grants a bonus to the character's DEX score, that can be applied to either MARK or AGI, but causes a deficiency in STR due to the lack of torque output. This cyberarm can accept one upgrade to the limb. The amount of increase and deficiency depends on the level of the cyberarm.

Augmentation	STR	DEX	ML	Upg	Cost	Restr
Standard Cyberarm	—	—	–2	3	10	None
Strength Servo Cyberarm, Basic	+2	–1	–4	2	20	None
Strength Servo Cyberarm, Standard	+3	–1	–8	2	35	None
Strength Servo Cyberarm, Professional	+4	–2	–10	1	40	None
Strength Servo Cyberarm, Custom	+6	–3	–14	1	55	None
Dexterity Servo Cyberarm, Basic	–1	+2	–4	2	20	None
Dexterity Servo Cyberarm, Standard	–1	+3	–8	2	35	None
Dexterity Servo Cyberarm, Professional	–2	+4	–10	1	40	None
Dexterity Servo Cyberarm, Custom	–3	+6	–14	1	55	None

Table 26: Arm Augmentations

Legs

The legs are the lower appendages on sentient creatures, used for locomotion. In order to receive any bonuses or benefits, leg augmentations must be taken by both legs, and unless otherwise noted a character can have no more than one type of augmentation at one time. The cyberlegs listed are for a set.

Standard Cyberlegs A cyberlimb is a replacement limb for a limb that has been lost or otherwise amputated. They come in various stylings and brands, but the standard composition of a cyberlimb is a steel body that protects the sensitive inner servo motors, cyberfluid, and the tendons inside that cause the flexing and moving of the cyberlimb. A standard cyberleg usually replaces the leg from the thigh all the way down to the foot and has the same range of motion as a standard limb and can accept three upgrades.

Sport Cyberlegs Sport cyberlegs are cyberlimbs that are focused on making a character more flexible, jump higher, carry more, and perform better. These cyberlimbs increase the leg strength for a character, allowing them to jump higher and put more strength into their movements, as well as be more delicate and purposeful with their movements. This upgrade provides bonuses to all Athletics checks and all Acrobatics checks, as well as increasing the base Carrying Capacity.

Speed Cyberlegs Speed cyberlegs are focused solely on making a character faster. When a character uses these cyberlegs, they can move at the speed of 10' per 1 CP.

Augmentation	Bonus	ML	Upg	Cost	Restr
Standard Cyberleg	—	–1	3	10	None
Speed Cyberleg	—	–4	1	40	None
Sport Cyberleg, Basic	+3	–4	2	20	None
Sport Cyberleg, Std	+5	–8	2	35	None
Sport Cyberleg, Professional	+7	–10	1	40	None
Sport Cyberleg, Custom	+10	–16	1	55	None

Table 27: Leg Augmentations

Cyberlimb Upgrades

These upgrades can be installed on a cyberlimb to change its use or enhance features.

Hidden Melee Weapon This upgrade installs a melee weapon into the cyberlimb and can be deployed and used. This upgrade has to be deployed or prepared for use, which costs 1 CP. It can also be retracted for 1 CP. These melee weapons are considered small natural weapons, and can take the benefits from all feats that would give benefits to unarmed strikes.

- **Spines** This is a singular pointed spine that shoots out of the forearm for use.
- **Claws** These are razor sharp claws that can either be placed where the fingernails are, or can be released from in-between the knuckles.
- **Impact** This upgrade is a weighted metal sheath that goes over the impact points of the cyberarm, allowing a character to hit harder without damaging themselves.
- **Shokpads** Small pads that, when revealed, electrocute a target when struck.

Type	Damage	Type	Cost	Restr
Spine	2d6	Piercing	20	None
Claws	2d6	Slashing	20	None
Impact	2d6	Bludgeoning	20	None
Shokpads	1d8	Electric	18	None

Table 28: Cyberarm Hidden Melee Weapons

Hidden Ranged Weapon This upgrade installs a single shot firearm, tranquilizer dart shooter, paintball gun or plasarm into the cyberlimb, that can be used by the user. When using this, the wrist usually flips up to reveal the barrel, but some versions have the firing housing rise out of the forearm. Both versions require that the user's arm is not used for any other purpose while this is deployed. Deploying this arm for use or retracting it cost 1 CP and reloading this weapon costs the same amount of Combat Points it would take to reload the standalone version. All hidden ranged weapons are considered Small sized.

- **Tranquilizer Dart Gun** This is an airgun that fires a hypodermic needle-like dart that injects a target with one dose of tranquilizer agent. Tranquilizer guns do no damage on their own, but rather the damage is derived from the poison in the dart. A tranquilizer dart can house one dose of any ingested or injected poison. Tranquilizer guns can not provoke a Critical Strike. Reloading a tranquilizer gun costs 9 Combat Points and provokes AoO.
- **Paintball Marker** A marker that is used to mark targets from a long range. Damage is determined by the ammunition it is firing. Reloading a paintball marker costs 4 Combat points and provokes AoO.
- **Firearm** This is a single shot firearm built into the housing of the arm. Players can select any caliber listed in the gunsmithing categories (See: Core Rulebook, Gunsmithing, Categories), with the cost of the upgrade determined by the category of the chosen caliber.
- **Plasarm, Lasarm, or Elarms** This is a plasarm, lasarm, or elarm built into the housing of the arm. Players can select from the 1st to 7th category for the wattage of the plasarm, or 2st to 9th category for the wattage of the lasarm or elarm, with the cost of the upgrade determined by the category of the chosen wattage. This weapon requires a coolant pack to function. Elarms can only be purchased with a Single fire rate of fire.

Type	Caliber	Damage	Mag/Heat	Rng	RoF	Cost	Restr
Tranquilizer Dart Gun	—	Special	1	30'	Single	20	None
Paintball Marker	.68 PB	Special	10	30'	Semi	35	None
Firearm	See text	Ballistic	1	50'	Single	10/category	R
Plasarm, Lasarm, or Elarms	See text	Plasma or Electric	10	20'	Semi/Single	15/category	R

Table 29: Cyberarm Hidden Ranged Weapons

Skincover Treatment Skincover is an organic paste that a cyberlimb is dipped in that will cause sudden growth of skin and nails as well as a merging of the flesh on the shoulder to give the cyberlimb a realistic look and feel. Skincover treatment makes a cyberlimb visually indistinguishable from a real, natural limb, but touching will reveal its real nature, due to the temperature and composition of the cyberarm underneath. This upgrade also regains tattoo space lost when receiving a cyberleg, but casting spells tattooed on skincover treatment do not cause damage to the person tattooed.

Skeletal Reconstruction This upgrade is a complete rebuild of the cyberlimb, replacing the tendons, servos, and structure with skeletal and muscle simulate, that gives a realistic feel to the cyberlimb. This upgrade can only be taken if the Skincover Treatment upgrade has been taken, and prevents the installation of any other upgrade.

EMP Hardening This upgrade strengthens and protects the cyberlimb from an electromagnetic pulse that would otherwise disable the cyberlimb. This upgrade can also be performed on the head as well.

Ceramic Upgrade This upgrade is a complete rebuild of the cyberlimb replacing all metal parts with a high impact ceramics and plastics to allow a cyberlimb to pass undetected through metal detectors.

Hidden Compartments This upgrade installs a hidden compartment. This upgrade can be taken multiple times. In a cyberarm, it can hold one Tiny object or smaller, that weighs 0.6 lbs or less. In a cyberleg, it can hold one Small object or smaller, that weighs 1.9 lbs or less.

Vitals Sensor This upgrade installs a sensor within the cyberlimb that will display the health of the character, including heart rate, any possible infections, diseases, or effects that the character is currently experiencing. It can be output on a digital device, such as augmentative vision.

Overdriver This upgrade, installed on servo cyberarms or sport cyberlegs, will allow a user to push their limbs to the absolute limit while possibly damaging the unit. When this upgrade is used, the limb gains a +6 in the applicable ability score or skill score and carrying capacity for one turn. When used the player rolls a d%. On a result of 01-50, the arm breaks at the end of their turn. It must be repaired with a Craft (Mechanical) check [TN(15+5 per use)]. Each use of this upgrade adds 10% to the break chance, until the limb is repaired, resetting the break chance.

Augmentation	Upgrade For	ML	Cost	Restr.
Skincover Treatment	Any Cyberlimb	+0	22	None
Skeletal Reconstruction	Any Cyberlimb	+0	40	None
EMP Hardening	Any Cyberlimb	–3	28	None
Hidden Melee Weapon	Any Cyberarm	–10	See text	None
Hidden Ranged Weapon	Any Cyberarm	–12	See text	See text
Ceramics	Any Cyberlimb	+0	25	None
Hidden Compartment	Any Cyberlimb	–3	12	None
Vitals Sensor	Any Cyberarm	–2	11	None
Overdriver	Servo Cyberarms Sport Cyberlegs	–8	20	L

Table 30: Cyberlimb Upgrades

Cyberlimbs and Transmutation

Due to their composition, cyberlimbs are transmutable, even while using them, allowing for a multitude of creative interactions. Below are the values for cyberlimbs, if a character chose to make weapons out of cyberlimbs. By default, the cyberlimbs are made of steel, and the ingot used will be a steel ingot, but various upgrades will change the composition.

Cyberarm One small steel ingot, and two medium steel ingots.

Cyberleg One medium steel ingot, and two large steel ingots.

Ceramic Upgrade Changes all of the ingots to crystal.

Skeletal Reconstruction Upgrade Changes all of the ingots to plastic.

Core

The core is the abdomen of a sentient creature, encompassing the chest, stomach, and the back. The core is where most of the organs reside. The core can have up three augmentations.

Subdermal Implants These implants are flexible plasteel plates, planted under the skin. They protect against all forms of melee damage, granting a DR of 3/Bludgeoning, Slashing, and Piercing naturally. The DR is only for attacks toward the user's chest.

Lung Enhancement This augmentation grants a character a multitude of abilities. It doubles the lung capacity, allowing a character to hold their breath when needed for twice as long. This upgrade also grants a character an internal O_2 scrubber, allowing a character breathe under water for 5 minutes. The character must then resurface or breathe oxygen for at least 30 seconds to clear the scrubber.

Spinal Lancing This augmentation is a layer of flexible smartbone laid over a user's spine, that injects and links itself with the user's spine and brain, enhancing their movements, increasing the Defense of the character. Also, if the character fails a Reflex Saving Throw, they only take half damage, instead of the full damage. The Defense granted to the character is dodge Defense, and any action that would cause a character to become Flat-Footed would cause them to lose that defense as well. Due to the invasive procedure required, spinal lancing causes a permanent reduction to CHP, equal to 2x the bonus it provides, while the implant is installed. If a character would be reduced to 0 CHP or less due to this implant, they can not take the upgrade, and no ethical doctor would perform the surgery on them. Professional spinal lancing counts as one core augmentation and one set of leg augmentation and custom spinal lancing counts as one core augmentation, one set of leg augmentation, and one set of arm augmentation.

Augmentation	Bonus	ML	Cost	Restr
Lung Enhancement	—	–20	80	None
Subdermal Implants	—	–10	28	None
Spinal Lancing, Basic	+1	–7	32	None
Spinal Lancing, Standard	+2	–10	45	None
Spinal Lancing, Professional	+3	–14	67	None
Spinal Lancing, Custom	+4	–21	79	None

Table 31: Core Augmentations

Weapon Accessories

Coolant Packs

Coolant packs are the primary means of plasarms, elarms, and lasarms to remove heat and keep firing without overheating. If a plasarm, elarm, or lasarm does not have a coolant pack inserted into it, it will not fire. Coolant packs come in various types and various efficiencies, but all coolant packs fit all plasarms, elarms, lasarms, and plasma systems. Unless otherwise noted, it takes a coolant pack 24 hours to cool once it has been used.

Standard Coolant Pack Made by multiple manufacturers, this pack is made with a refrigerant gel surrounding a liquid nitrogen core. It provides standard coolant rules.

QuickCool Coolant Pack Built with a sensor and an automatic valve that allows for better coolant times for the coolant pack. This pack takes 12 hours to cool on its own, or 2 hours if placed in a chiller.

High Efficiency Coolant Pack Made from a very efficient refrigerant gel, that allows it to displace heat at all times. It grants +10 Heat when used in any plasarm, lasarm, or elarm and can soak an additional 30 points of plasma or electrical damage in any armor that uses coolant packs.

Extended Armor Coolant Pack Designed primarily around its use in armor, granting +2 DR/Plasma and Electricity and can soak an additional 15 points of plasma or electrical damage in any armor that uses coolant packs, but provides ½ the normal heat when used in any plasarm, lasarm, or elarms.

Quick Charge Armor Coolant Pack Designed primarily around its use in armor, it reduces the time it takes for plasma shielding to recharge to 1 round, but reduces the total amount of plasma damage the armor can soak by ½, rounded up. When used in plasarms, lasarms, or elarms it provides ½ the normal Heat.

Coolant Pack Chiller

This is a powered, non-portable chiller that will chill coolant packs, ensuring that they are in a ready to use state, as well as cool down hot packs at an increased rate. Any hot pack placed in this chiller will take no more than 4 hours to be completely chilled and ready for use. A small chiller can store 6 packs, a medium sized one can store 10, and a large chiller can store 30 packs at one time.

Object	Sz	Wt	Cost	Restr
Coolant Pack, Standard	T	0.3	1	None
Coolant Pack, QuickCool	T	0.3	3	None
Coolant Pack, High Efficiency	T	0.3	4	None
Coolant Pack, EXArmorCool	T	0.2	3	None
Coolant Pack, QCArmorCool	T	0.2	3	None
Coolant Pack Chiller, Small	S	2.0	6	None
Coolant Pack Chiller, Medium	M	2.9	10	None
Coolant Pack Chiller, Large	L	4.5	16	None

Table 32: Weapon Accessories

Food, Drink, and Recreational Equipment

Nutrient Paste Nutrient paste is a grey, semi-solid paste that provides a person with all of the nutrients they need for a day, regardless of their dietary restrictions, though lacking any taste whatsoever. It is packaged in foil retort pouches, and can be eaten cold or hot, and do not have any expiration date as long as they remain unopened. A single pouch provides 8 NV. Nutrient paste pouches are suitable for carnivores, omnivores, and herbivores. The price listed is for a pack of 5 packs..

Food Pod A portable, durable package of food, that can be reconstituted with the addition of water. Similar to MREs, but taste much better and come in a wide variety of previously unachievable flavors, such as lobster, steak, or pork chops. Provides 16 NV. Food pods come in various versions, suitable for carnivores, omnivores, and herbivores.

Object	Sz	Wt	Cost	Restr
Nutrient Paste (5)	T	0.3	1	None
Food Pod	S	0.6	2	None

Table 33: Food

Armor

Armor comes in three different types:

Impromptu armor includes items that provide protection even though they were not designed for that purpose, such as leather biker's jackets and football pads.

Concealable armor is modern body armor designed to fit underneath regular clothing. It can be worn for extended periods of time without fatiguing the wearer. Concealable armor can also be worn under Impromptu or Tactical armor.

Tactical armor is modern body armor that fits over clothing and can't be easily concealed. Its weight and bulk make it impractical to wear all the time and is generally only donned when a specific dangerous confrontation is likely. Because it is worn over clothing in tactical situations, tactical armor often has pockets, clips, and MOLLE attachment points for carrying weapons, grenades, ammunition, flashlights, first aid kits, and other items.

- **Equipment Bonus** The equipment bonus is the bonus to DEF a character gets if they are proficient in the armor, and its AP has not been depleted. The Equipment bonus applies to the entire character, not just areas it protects.
- **Maximum AGI Bonus** The maximum AGI Bonus you can apply toward your defense, when wearing the armor.
- **Armor Penalty** This penalty applies to the following skills if the character isn't proficient in the worn armor: Acrobatics, Athletics, Craft (All), Demolitions, Disable Device, Drive, Perform, Pilot, Ride, and Stealth. If a character is proficient in the armor, the penalty only applies to Athletics, Acrobatics, and Stealth.
- **CP Loss** How much the armor slows a character down when worn. The character has to spend this amount of Combat Points from their Combat Point pool before they can move.
- **Damage Reduction** This represents how much damage the armor negates, and what type of damage is reduced. Any slashing, piercing, ballistic, or concussive damage that exceeds all the damage reduction of all worn armors is considered bludgeoning damage. Unless otherwise noted, armors that protect against plasma or electric damage protect the entire body. If a weapon does multiple types of damage, and the armor does not protect against all damages listed, that damage is not stopped by the armor.
  - **Sl** Slashing | **Pi** Piercing | **Bl** Bludgeoning | **Ba** Ballistic
  - **F** Fire | **C** Concussion | **Pl** Plasma | **El** Electric | **A** Acid | **Bp** Ballistic Piercing
- **AP** Armor points are a representation of how much damage armor can take. When armor protects a character from damage using its damage reduction, it subtracts the damage done from its AP score. Armor points are only subtracted to applicable damage. Armor can be repaired at 1 WP per armor point. Armor only protects against certain types of damage. If a character is attacked and his armor does not cover the certain type of damage, the damage reduction for the armor does not apply, and the character take the full damage to their hit points. When an armor has run out of AP, it also stops providing an equipment bonus to DEF.

Plasma Shields and Soak Damage

Plasma shielding, which protects against plasma and electricity damage, behaves differently from standard Damage Reduction and Armor Points, instead using diffusion and Soak.

Any armor that has Plasma or Electric damage reduction functions off of a shield system. A shield has a damage reduction rating, and a Soak Rating.

Any damage that does not exceed the Damage Reduction is immediately diffused, while any damage that exceeds the Damage Reduction subtracts from the Soak Rating. When the soak rating is reduced to 0, the shield has been overloaded and no longer protects against Plasma or Electric damage. The shield either needs to have a new coolant pack installed, or the character can wait until the coolant pack cools down, which takes about 24 hours. Unless otherwise noted, it takes 3 rounds for a newly installed coolant pack to recharge the shield.

The shield protects the entire body from Plasma and Electric damage.

Light Armor

Microfiber Shirt This is a shirt woven from extremely tough, strong fibers that protect against gunfire and sharp instruments while being light and completely unnoticeable. The downside is that it is notoriously weak to sustained abuse and will often break and tear after only a few hits.

Emergency Plasma System The EPS is a light, last ditch alternative to standard plasma armor worn by detectives and those that need protection against plasma weapons, but not need to be visibly known. Whenever the wearer is attacked successfully with a plasma attack, even a critical strike, the EPS deploys a one time use shield that blocks a single plasma or electrical attack regardless of the amount of damage the attack dealt. The downside to this is that the EPS only can be used once before the coolant pack has to be replaced.

Special Notes This armor is hardened against EMP.

Brawler's Cut This stylish leather vest is worn by street fighters, and other individuals who may have to engage in combat and fight. The vest has small, light metal plates sewn into the chest and back of the vest (to protect against slashing weapons) which are then lined with a non-Newtonian fluid to help absorb the shock of bludgeoning weapons. It is further reinforced to take more damage than a standard vest. It also has hidden pockets that contain a holster-sheath that will hold one Small or smaller sized weapon, and a pouch that can hold 2 magazines or speedloaders.

Concealable Plasma Vest The concealable plasma vest is a light, comfortable vest that is worn normally under clothing primarily to defend against plasma attacks. This armor can soak 15 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor is hardened against EMP.

Brawler's Jacket This stylish leather jacket is worn by street fighters, and other individuals who may have to engage in combat and fight. The jacket has small, light metal plates sewn into the arms of the jacket (to protect against slashing weapons) which are then lined with a non-Newtonian fluid to help absorb the shock of bludgeoning weapons. It is further reinforced to take more damage than a standard leather jacket. It grants the wearer a +1 to Fortitude Saving Throws made to resist the effects of cold weather. Brawler's jackets have two pockets than can hold 1.5 lbs of equipment that is Tiny sized or smaller each.

Special Notes This armor protects the arms of the wearer, providing DR and Defense to all listed areas.

Stealthsuit A stealthsuit is a full bodysuit that is littered with tiny LEDs and sensors that adapt to whatever is nearby. When a character wearing this armor stops moving for 1 round, the armor shifts its colors that not only mirror the surrounding area, but compliment it as well. When this happens, the character wearing the armor gains an immediate +18 bonus on all Stealth checks to avoid being seen. The armor can also be used to blend in the open, causing a slight optical illusion and an appearance of invisibility. When the armor is worn normally, it grants a 15% Concealment bonus against all ranged attacks.

Special Notes This armor protects the head, arms, legs, feet and hands of the wearer, providing DR and Defense to all listed areas.

Lightsuit This spacesuit is comprised of a thin, flexible light material that protects against the vacuum and radiation of space, while still allowing for freedom of movement. It is fully sealed and has a tank that can hold up to 12 hours of breathable oxygen.

Special Notes If a character takes any damage wearing a lightsuit, it is depressurized and can no longer protect its wearer from the environment.

Medium Armor

Light Powered Plasma Vest The light powered plasma vest is an armor system that derives its protection ability from the same source that plasarms do, and as such, require coolant just as plasarms do. This system is a vest that has built in plasma emitters, that neutralize incoming plasma or electrical attacks, but has diminished protection against other forms of damage, in order to save on weight. This armor can soak 40 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor is hardened against EMP.

Charged Tactical Vest The new standard body armor for police tactical units, this vest has been upgraded with a plasma defense system, allowing it to defend against plasma or electric attacks as well. This tactical gear is covered in MOLLE, which allows different accessories to be mounted on to the user's specifications. This armor has 6 MOLLE slots, but they can be removed at time of purchase for no cost, and can soak 30 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor is hardened against EMP.

HEM Tactical Vest This is the new standard in body armor for the military, given both a plasma defense system and a Health and Environment Monitoring system that monitors the wearer's current health as well as their environmental location and possible dangers. The HEM tactical vest also possesses three auto-injectors that can be programmed to inject the wearer with any injectable substance when specific conditions are met. The standard conditions are when a character hits 75% of their total HP for the first, 50% of their total HP for the second and when a character is reduced to 2 CHP for the third. This armor has 12 MOLLE slots, but they can be removed at time of purchase for no cost, and can soak 20 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor is hardened against EMP. This Armor can accept a single set of Armor Plates.

Combat Harness with Articulation Arm The Combat Harness is worn by the operator of an M56 Smartgun. Made from composite micromesh ballistic armor, the articulation arm attached to the Smartgun is connected to a mount via the harness. The harness is heavily padded to ease chafing at the shoulders and hips.The combat harness also has a mount for a tactical flashlight, that can be turned off or on through any interface software.

Special Notes When wearing this armor while using a M56 Smartgun, the weight of the M56 Smartgun is reduced by 95%, and the M56 Smartgun recieves a +8 Recoil Reduction on all attacks. This armor protects the legs of the wearer, providing DR and Defense to all listed areas

Personal Combat Armor The Pattern Personal Armor, is the standard ballistic protective armor system for a wide variety of combat effective persons. It is designed to balance lightness and comfort with optimum protection. Inside of the back plate of the armor is an integrated vital sign sensor which displays the health of the individual. The personal combat armor also has a mount for a tactical flashlight, that can be turned off or on through any interface software.

Special Notes This armor protects the legs of the wearer, providing DR and Defense to all listed areas

Standard Spacesuit This spacesuit is a full body spacesuit that protects a single person from the harmful radiation and vacuum of space. It has its own life support system that negates any temperature effects, as well as an emergency 48 hour air tank, a full sun visor, and a communication radio. Due to its bulk, any character wearing this suit is unable to use any weapon larger than medium size or any weapon smaller than tiny size, taking a penalty on the attack roll equal to the armor penalty. This armor can soak 5 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor protects the head, arms, legs, feet, and hands of the wearer, providing DR and Defense to all listed areas. If a standard spacesuit loses all of its AP, it is depressurized and can no longer protect its wearer from the environment. This armor is hardened against EMP.

Heavy Armor

Juggernaut This armor is a reconfiguring of the forced entry unit, for a primary threat of plasarms being the focus, instead of firearms. This tactical gear is covered in MOLLE, which allows different accessories to be mounted on to the user's specifications. This armor has 8 MOLLE slots, but they can be removed at time of purchase for no cost, and can soak 50 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor protects the arms and hands of the wearer, providing DR and Defense to all listed areas. This armor can accept a single set of armor plates. This armor is hardened against EMP.

Mobile Tank Unit The mobile tank unit is a set of armor with built in servo motors that augment the strength of the user at the cost of mobility. This unit is heavily armored and used primarily to provide support to other units, accomplish amazing feats of strength, and even provide cover. This armor, when worn, increases the character's effective STR score to 26 with all of the Ability Focus in Strength placed in POW. This suit also has servos built into it, allowing it to stand on its own with no force or strength required to wear this armor. This armor has 8 MOLLE slots, but they can be removed at time of purchase for no cost, and requires two coolant packs every four hours of operation it performs.

Special Notes This armor protects the head, arms, legs, feet and hands of the wearer, providing DR and Defense to all listed areas. This armor is hardened against EMP.

Marine Spacesuit This spacesuit is an upgraded version of the standard spacesuit, built for military and police use. It protects the user from the harmful radiation and vacuum of space. It is a full body suit that has its own life support system that negates any temperature effects, as well as an emergency 72 hour air tank, a full sun visor, and a communication radio. It also has a mount to mount and use any plasarm, lasarm, elarm, or caseless firearm. Mounting a weapon to the marine spacesuit allows it to be fired hands free, and negates the recoil penalty for any weapon that is mounted to the marine space suit. A character can also wield large or larger weapons in their hands, taking a penalty on the attack roll equal to the armor penalty. This suit also has servos built into it, allowing it to stand on its own with no force or strength required to wear this armor. If a character has the Heavy Armor Proficiency feat, the CP loss is reduced to 3. This armor has 12 MOLLE slots, but they can be removed at time of purchase for no cost, and can soak 60 points of plasma or electric damage before it requires a new coolant pack. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Special Notes This armor protects the head, arms, legs, feet and hands of the wearer, providing DR and Defense to all listed areas. If a marine spacesuit loses all of its AP, it is depressurized and can no longer protect its wearer from the environment. This armor is hardened against EMP.

Armor Plates

Carbon Nanotube Plates These plates are made from an extremely strong, extremely lightweight material and can be used to provide lightweight, long lasting protection against some ballistic threats.

Fluid Plates These are not plates in the truest sense, rather a semi-solid non-Newtonian fluid in a formed shape that absorbs shock, providing very good protection against blunt force trauma.

Nanobot Plates These plates are infused with self replicating nanobots that will slowly restore the health of the armor plate once it is damage. It will restore 1d6+2 AP every 12 hours.

Armor	Type	Equipment Bonus	Max AGL Bonus	Armor Penalty	CP Loss	Damage Reduction	AP	Soak	Wt	Cost
Microfiber Shirt	Lt.C	+0	+8	+0	0	8/Ba, Sl	8	—	0.5	20
EPS	Lt.C	+0	+7	–1	0	All/Pl, El	*1	*1	0.8	16
Brawler's Cut	Lt.I	+1	+8	+0	0	6/Bl 3/Sl	24	—	1.3	9
Concealable Plasma Vest	Lt.C	+1	+7	–2	0	8/Pl, El 2/Sl	10	15	2.3	23
Brawler's Jacket	Lt.I	+1	+8	–1	0	6/Bl 3/Sl	48	—	2.0	10
Stealthsuit	Lt.T	+2	+9	-1	0	2/Sl, Bl 1/Pi	20	—	1.2	50
Lightsuit	Lt.T	+0	+8	–1	0	0/None	0	—	3.8	40
Light Powered Plasma Vest	Md.T	+2	+8	–2	1	8/Pl, El 4/Bl	32	40	7.5	35
Charged Tactical Vest	Md.T	+3	+2	–3	2	12/Pl, El 6/Ba	60*	30	9.4	44
HEM Tactical Vest	Md.T	+3	+2	–3	2	12/Pl, El, Ba	50*	20	9.4	60
Combat Harness with Articulation Arm	Md.T	+3	+2	–3	2	13/Ba 10/Pi 6/Sl, Bl, Bp 4/A	120	—	14.8	120
Personal Combat Armor	Md.T	+4	+2	–3	2	18/Ba 12/Pi 6/Sl, Bl, Bp 4/A	85	—	16.0	85
Standard Spacesuit	Md.T	+4	+0	–5	4	12/Bl, Sl, Pi 6/Ba 5/F 1/Pl, El	40*	5	45.0	100
Juggernaut Armor	Hv.T	+5	+0	–6	4	16/Pl, El 10/Ba, Sl, Bp 5/Pi	200*	50	17.5	65
Mobile Tank Unit	Hv.T	+5	+0	–9	5	25/Ba, Bp, Sl, Bl, Pi	375	—	40.0	130
Marine Spacesuit	Hv.T	+5	+0	–8	6*	30/Ba 24/Bl, Sl, Bp 12/Pi 10/Pl, El	180*	50	350.0	150

*See description for details

1 This armor negates all plasma or electrical damage once but requires a new coolant pack.

Table 34: Armor

Plasma Plates These plates consist of a plasma array that is used to defend against plasma and electric damage. They, like all plasma technology, require coolant packs in order to use, but provide decent protection against plasma and electric damage. They can soak 20 points of plasma or electric damage before requiring a coolant pack change. This armor protects against all stunning effects from any attack that also deals electric damage while the armor can soak plasma or electric damage. It takes 3 rounds for the plasma shields to recharge after a new coolant pack has been inserted.

Plate Type	CP Loss	DR	AP	Soak	Wt	Cost
Carbon Nanotube	0	10/Ba, 1 Bp	50	—	1.0	30
Fluid	0	12/Bl	40	—	1.3	10
Nanobot	1	8/Ba	24	—	1.6	45
Plasma	1	5/Pl,El	—	20	2.0	15

Table 35: Armor Plates

Helmets

Helmets keep the most important part of most creature's body safe: the head. When calculating the damage for a called shot to the head, use the damage reduction (if any) for the hat or helmet.

Plasma Combat Helmet The standard helmet usually issued to combat forces in the military that protects against shrapnel and glancing shots. This helmet exchanges the ballistic protection for plasma protection. This helmet can soak 5 points of plasma or electric damage before it requires a new coolant pack. It takes 5 rounds for the plasma shields to recharge after a new coolant pack has been inserted. Plasma helmets require coolant packs.

Advanced Ballistic Combat Helmet This is an upgrade to the ballistic combat helmet, introducing new, stronger materials that increase it's ability to take hits, at the cost of it's durablity. This helmet can also directly mount a Gas Mask, Emergency Air Mask, Condenser-Diluter, Rebreather, Night Vision Goggles, Infrared Goggles, and Passive or Active Hearing Protection.

Helmet Type	Type	DR	Wt	Cost	AP
Combat, Plasma	T	5/Pl,El, Bl,Sl 1/Ba	2.0	13	20
Combat, Advanced Ballistic	T	5/Ba,Bl, Bp,Sl	3.5	35	30

Table 36: Equipment, Armor, Helmets

Armor Upgrades

Strength Servos This upgrade fits the armor with servos that augment the wearer's physical strength. Increases the armor's weight by 5.0 lbs and provides a +4 bonus to the wearer's STR score. Any increase to the ability modifier is treated as going towards POW. Uses one coolant pack every six hours of operation. Only medium or heavy tactical armor may use this upgrade.

Chill Integration This upgrade adds a chill diffuser to the armor. When the armor is worn it has the effect of a chill collar, and grants a +2 to Fortitude Saving Throws made to resist the effects of hot weather.

Vacuum Hardened This upgrade outfits and seals a set of armor to the harmful radiation and vacuum of space. This upgrade can be applied only to tactical or impromptu armor that covers the Body, Arms, Hands, Legs, and Feet. It includes a helmet that extends protection to the head if it's not already protected by the base armor, and includes an air tank that lasts for 6 hours. If vacuum hardened armor loses all of it's AP, it becomes depressurized and can no longer protect it's wearer from the environment. This also increases the total weight of the armor by 20%.

Plate Type	Wt	Cost
Strength Servos	5.0	40
Chill Integration	—	2
Vacuum Hardened	20%	80

Table 37: Armor Upgrades

Weapons

Simple Melee Weapons

Microwire Knife A knife that consists of a simple flat piece of metal that is lined on the edge with a thin, tightly drawn microwire making this knife extremely sharp and unable to be dulled. Microwire knives can not accept any upgrade on their contact. Microwire knives are considered field knives for the purpose of feats and equipment.

ShokStick A light club with the added ability of shocking whatever is struck. On a successful hit the ShokStick deals 1d3 points of electricity damage (do not add the character's POW bonus for the electric damage) and the target must make a Fortitude Saving Throw [TN10] or be Paralyzed for 1d2 rounds. This weapon has the retractable melee weapon upgrade.ShokSticks are considered light clubs for the purpose of feats and equipment.

SikStick A light club that, when struck against a creature, sends vibrations to upset their GI tract causing nausea. On a successful hit the target must make a Fortitude Saving Throw [TN20] or be Sickened for 1d4+1 rounds. This weapon has the retractable melee weapon upgrade. SikSticks are considered light clubs for the purpose of feats and equipment.

Weapon	Damage	Critical	Type	Sz	Wt	Cost
Microwire Knife	1d4+6	14-18	S	S	1.3	12
ShokStick	1d6	16-18	Bl	S	1.5	6
SikStick	1d6	16-18	Bl	S	1.4	5

Table 38: Simple Melee Weapons

"Archaic" Melee Weapons

Proficiency Groups
Axes Microwire battle-axe, broadaxe, and hand axe **Combat Swords** Microwire shortsword, bastard sword, broadsword, and longsword

Microwire Axe & Sword These bear a strong resemblance to their medieval counterparts, but have been upgraded with futuristic improvements, such as improved grip handles with a soft rubber coating and the addition of a microwire to the edge of the blade, increasing their effectiveness. Microwire axes and swords can not accept any upgrade on their contact. Microwire swords and axes are considered to be the same kind of weapons as their non-microwire counterparts. Microwire swords come with a tactical sheath.

Whip Sword A sword that is connected with a wire that runs through various links that make up the sword, which can be retracted and extended at will. A character may switch a whip sword's form for 1 CP. Whip swords come with a tactical sheath.

Sword Form When the whip sword is in this mode, it is considered a shortsword and gains any benefits that a shortsword would gain from feats and abilities.

Whip Form When a whip sword is in this mode, it is considered a bullwhip and gains any benefits that a bullwhip would gain from feats and abilities.

Weapon	Damage	Critical	Type	Sz	Wt	Cost
Microwire Battle-axe	1d10+8	15-18	Sl	L	8.0	20
Microwire Broadaxe	1d8+7	15-18	Sl	L	5.0	18
Microwire Hand Axe	1d6+6	15-18	Sl	M	3.0	16
Microwire Shortsword	2d3+5	15-18	Pi	M	2.0	18
Microwire Bastard Sword	2d6+6	15-18	Sl	L	5.0	21
Microwire Broadsword	1d6+6	13-18	Sl	M	6.0	21
Microwire Longsword	1d8+7	15-18	Sl Pi	L	3.0	25
Whip Sword	1d6	16-18	Sl	S	3.3	13

Table 39: "Archaic" Melee Weapons

Exotic Melee Weapons

Microwire Chainsaw This weapon is a shrunken down version of a chainsaw exchanging the large, loud gasoline engine and big hooked teeth for a small electric motor with a microwire blade. Microwire chainsaws can not accept any upgrade on their contact. This blade may also be used as a bayonet on any weapon with a bayonet lug. Microwire chainsaws require the Exotic Melee Weapons Proficiency feat in order to be used without a –4 attack penalty, even when used as a bayonet.

Weapon	Damage	Critical	Type	Rng	Sz	Wt	Cost
Microwire Chainsaw	2d6+8	16-18	Sl	—	S	1.5	15

Table 40: Exotic Melee Weapons

Weapon	Craft TN	Mat Cost	Time
Microwire Knife	18	9	3 days
ShokStick	9 (Mech) 12 (Elec)	5	4 days
SickStick	9 (Mech) 15 (Elec)	4	5 days
Microwire Battle-axe	24	9	1 week
Microwire Broadaxe	22	8	6 days
Microwire Hand Axe	20	7	5 days
Microwire Shortsword	19	5	10 days
Microwire Bastard Sword	22	7	11 days
Microwire Broadsword	26	8	12 days
Microwire Longsword	30	10	2 weeks
Whip Sword	25	13	1 week
Microwire Chainsaw	32	10	3 weeks
Glave	18	2	3 days

Table 41: Melee Weapon Crafting

Plasma Blades

The plasma blade is a weapon that consists of a hilt, usually between 12-18" in length, that projects a blade between 24-30" in length. They are very close related to the psion's psiblade, even going so far as to use most of the external parts, but internally they are completely different weapons. The blade has no weight, making the entire weapon bottom heavy, and quite odd to use by someone not used to it.

When the plasma blade is inactive, it looks like a simple tube. When activated, the glowing blade springs forth from the emitter area, giving off a soft hum.

Plasma blades have four major components: The case, the emitter, the plasma energy core, and the coolant system.

The case is the largest part of the weapon, and is the piece that houses all of the other components. It is usually made of a durable metal, such as aluminum, steel, or titanium. It is ill advised to use anything but a resilient metal, due to the heat the plasma blade generates. The case holds the activation mechanism, which is usually a button or toggle, but can be a sliding plate, or sequence of buttons (often incorporating a password for activation). The case also holds all of the upgrades performed on the plasma blade.

The emitter is where the plasma energy is emitted. The plasma blade draws from the power of the plasma energy core, focusing the energy into a blade made of plasma. When the plasma blade is activated, it possesses a blade of plasma that glows a warm blue, green, red, yellow, orange, or violet. The color of the emitter is entirely dependent on the manufacturer.

The plasma energy core is the power source of the plasma blade, generating massive amounts of energy in a small space. This is where the plasma blade draws its energy. Because of the heat, the plasma blade must have a fresh coolant pack installed in order to be used. If a plasma blade does not have a fresh coolant pack, it

will not function. The damage of a plasma blade is determined by the wattage of the plasma energy core.

The coolant system is the system that cools down the plasma core, keeping the plasma blade's plasma core cool enough while it's being used. A plasma blade uses Heat at a rate of 1 Heat per attack, which is how much heat it can transfer into its coolant pack before it becomes too hot to use. Any plasma blade that generates enough Heat to meet or exceed its Heat, immediately shuts down unless a fresh coolant pack is put into the plasma blade. The coolant packs are interchangeable with any plasma weapon. Heavy attacks use +1 additional heat per attack and Full attacks use +2 additional Heat per attack.

Plasma blades are special weapons themselves, and require the Plasma Blade Proficiency feat in order to use without a –4 attack penalty. Any character that has Archaic Weapon Proficiency (Combat Swords or Fencing Swords) can use a plasma blade at a –2 penalty instead. Plasma blades can not be used to trip.

Plasma blades may be interfaced with various technologies.

All plasma blades deal plasma damage.

Wattage	Damage
15 kW	1d8
25 kW	1d8+1
35 kW	2d8
40 kW	2d8+1
45 kW	2d8+2
50 kW	3d8
65 kW	3d8+2
75 kW	3d8+3

Table 42: Wattage

Standard Hilt

The standard hilt plasma blade is a blade that has a completely straight hilt. Because of its weight, all attack actions are increased by +2 Combat Points.

Curved Hilt

A curved hilt plasma blade is a plasma blade with a case that has a slight curve to it, that allows for a more precise strike at the cost of being harder to use to defend. A curved hilt plasma blade grants a +3 attack bonus, all attack actions are increased by +3 Combat Points, and all reactions, and fighting defensively actions are increased by +2 Combat Points.

Weapon	Wattage	Critical	Type	Heat	Sz	Wt	Cost
Standard Hilt	25 kW (1d8+1)	12-18	Plasma	33	S	2.8	15
Curved Hilt	25 kW (1d8+1)	11-18	Plasma	33	S	3.3	18

Table 43: Plasma Blades

Plasma Blade Upgrades

Plasma blades can only have upgrades located on their handle, but they can accept up to three upgrades. The upgrades listed below are for plasma blades only, and can not be used for any other weapon.

Belt Clip This upgrade attaches a simple, but durable metal clip to the plasma blade, that allows it to be worn on a belt. It is considered holstered when it is clipped on a belt. This upgrade does not use an upgrade slot.

Colored Emitter This upgrade changes the emitter on a plasma blade to any color. The user may select any color possible by entering the RGB values, and can even alternate it based on things such as time, any interfaced value (current CHP for example), or even have the color be selected at random. This is purely an aesthetic change and does not affect any attack types, damages, or other functions of the plasma blade.

Composite The weapon is upgraded with non-ferrous materials, which allow a character to slip it through metal detecting devices. It grants a +10 bonus to Stealth checks against metal detectors, but only for the part upgraded.

Custom Handle The weapon's hilt or handle is fitted to a mold of the wielder's hand, granting him a +1 equipment bonus with all attack rolls made with the weapon. The wielder can also have the weapon's grip enlarged or reduced, making the weapon one size larger or smaller when using, but not concealing. Anyone else who tries to use the weapon suffers a –2 equipment penalty to their attack rolls.

Detailing This upgrade gives the weapon an engraved or a precious metal inlay, granting its wielder a +2 equipment bonus with Presence checks while the target has line of sight to it. This upgrade also increases the weapon's worth by 75%. The weapon loses this quality if it suffers any damage, though it may be restored with a successful Craft (Structural) repair check .

Fingerprint Activator This upgrade replaces the button activator with a fingerprint scanner on the hilt of the plasma blade. In order to activate the plasma blade, the user places their finger on the reader, and the blade reads the print of the user. If the fingerprint is recognized, the plasma blade activates. Up to 3 sets of fingerprints may be stored in the plasma blade. A plasma blade may only have one activator upgrade at a time. This increases the plasma blade activation time by 1 CP.

Password Activator This upgrade replaces the button activator with six smaller buttons, usually aligned in a circle or in a line, that must be pressed in the correct succession in order to activate the plasma blade. The user chooses six numerals between 1 and 6 and enters them in the plasma blade when this upgrade is performed. Anyone who does not know the code to the plasma blade may

not activate it. It takes 2 Combat Points to enter the password. A plasma blade may only have one activator upgrade at a time.

Plasma Core Downgrade This upgrade replaces the built-in plasma core with one that is a single increment lower, giving the blade less damage output, but more Heat. This upgrade grants the plasma blade with a power output of one wattage lower, but increases the Heat by 3 per upgrade. This upgrade can be taken as many times as it takes to reach 15kW. The plasma blade may not have a wattage level under 15kW.

Plasma Core Upgrade This upgrade replaces the built-in plasma core with one that is a single increment higher, giving the blade a more powerful damage output. This upgrade grants the plasma blade with a power output of one wattage higher, but decreases the Heat by 3 per upgrade. This upgrade can be taken as many times as it takes to reach 75kW. The plasma blade may not have a wattage level over 75kW.

Reactive Radiator This upgrade improves the internal radiator for plasma blades, increasing its Heat by 25% per upgrade. This upgrade can be taken twice.

Reserve Packs This upgrade allows the storage of an additional coolant pack within the weapon. When the first pack reaches its maximum heat intake, this upgrade automatically ejects the hot coolant pack, and routes heat to a reserve pack. Reserve packs must be exchanged just like all other coolant packs, and this upgrade does not come with any coolant packs. This upgrade can be taken once.

Shaped Emitter This upgrade changes the general shape of a plasma blade from the standard cylindrical blade to whatever the character wishes, however the shape cannot functionally move beyond a blade-shaped emission. This is purely an aesthetic change and does not affect any attack types, damages, or other functions of the plasma blade.

Upgrade	Cost	Time	Wt	Restr
Belt Clip	1	10 minutes	—	None
Colored Emitter	6	6 hours	—	None
Composite	8	3 days	—	None
Custom Handle	14	4 days	—	None
Detailing	70%	1 week	—	None
Fingerprint Activator	20	3 hours	—	None
Password Activator	5	3 hours	—	None
Plasma Core Downgrade	13	4 hours	—	None
Plasma Core Upgrade	15	4 hours	—	None
Reactive Radiator	22	3 hours	0.9	None
Reserve Packs	20	5 hours	0.6	None
Shaped Emitter	5	6 hours	—	None

Table 44: Plasma Blade Upgrades

Non Standard Ranged Weapons

Full Sized Handguns

Lawgiver Mk II A voice and interface activated handgun normally given to elite SWAT and field units who have to work asymmetrically against crime and gang units. If anyone not coded into its system tries to use a Lawgiver, it will first shock the unauthorized user (3d4 electricity damage) and a second attempt within five minutes will cause the weapon to self-destruct (10d6 concussion damage, 5' blast radius, and the hand is considered to have extremity damage). The Lawgiver also has special firing modes and replenishes its powder stores when the magazine is replaced. The special firing modes will only function with FMJ/Lead ammunition.

- **Incendiary** The bullet is coated with an incendiary powder that ignites on contact, granting +1 damage die of fire damage. The Lawgiver has ten uses before the internal storage is depleted.
- **Hi-EX** The bullet is coated with an explosive powder that detonates on contact, granting +3 damage dice of concussion damage. May only be in semi-automatic mode. The Lawgiver has three uses before the internal storage is depleted.
- **AP** The bullet is coated with an extremely dense powder, increasing the weight and penetrating power. When attacking targets that are armored or have natural armor to ballistic damage, provides +1 damage die of ballistic piercing damage.

Comes with a tactical flashlight and three 18 round magazines.

LAPD 2019 Blaster A revolver that was issued to LAPD officers after complaints about criminals wearing new body armor that seemed to stop any handgun round. Because of its unpopularity (mostly due to it being built from a revolver), it was quickly replaced, though any officer who did like it could keep it with the rest being unceremoniously dumped on the surplus market. The gun has two triggers, a forward one to control the 5.56 pistol and a rear trigger for normal double action pull.

Comes with one 3 round magazine

This weapon receives a +2 to all Stealth checks made to hide the weapon.

This weapon is not affected by the error range that comes from using alternate forms of ammunition.

Samaritan A giant revolving hand-cannon chambered in 12 Gauge, constructed specifically for large creatures to be used against large creatures.

This weapon is not affected by the error range that comes from using alternate forms of ammunition.

This weapon can take shotgun barrel upgrades.

Helsing Arms .454 A large handgun created to dispatch even the most hearty of vampires or otherworldly beasts. It is a firearm built in a 1911 style, but heavily beefed up with a redesigned magazine to allow for the loading of its large cartridge, the .454 Casull. Because of this, it must be used nearly two handed, as it is entirely too large to be wielded by most people.

Comes with one 7 round magazine.

Weapon	Caliber (Dam/Rec)	Magazine	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
Lawgiver Mk II	9x19mm (2d6/-2)	Box:18:4	F B 1T	35'	PA/3RB	S	2.0	75	0%	M&P
LAPD 2019 Blaster	.44 Magnum (3d6/-4) 5.56x45mm (5d4/-5)	Cyl:6 Box:3:2	F B	40' 25'	DA Bolt	M	2.4	32	0%	L
Samaritan	12 Gauge (5d6/-6)	Cyl:4	F B	30'	DA	L	3.8	50	0%	L
Helsing Arms .454	.454 Casull (3d6+5/-6)	Box:7:5	F B	45'	SA	M	8.1	70	0%	L

Table 45: Full Size Handguns

Anti-material Rifles

Railgun A railgun is a an electromagnetic projectile launcher, that uses magnets to fire a metal projectile accurately, at a long distance. Railguns are powered by a plasma core, and as such require a coolant pack to function. They use solid steel slugs fired at an extreme speed, causing them to have devastating effects against targets. A rail gun can fire one shot per heat. A railgun is equipped with a fixed stock, a 30x telescopic sight, a bipod, and a single standard coolant pack. Railguns can be disabled by EMP.

Weapon	Damage/Rec	Heat	Magazine	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
Railgun	15d10/-18	5	Box:5:5	F B O 4T	(600') 1800'	SL	H	30.0	600	0%	M&P

Table 46: Anti-Materiel Rifles

Other Weapons

These weapons do not fit into any kind of current medium or category, because of their unique nature.

Gas Operated Automatic Crossbow This crossbow is a copy of the crossbow that has allegedly been passed down in the Helsing family, updated for more modern use. It is a fully automatic crossbow that can fire in both semi-automatic, and fully automatic modes, by using a 25 round replaceable drum that has a CO_2 canister within the center. Despite being a crossbow, it uses the firearm rules for attacking and reloading, and can execute all attacks that a semi-automatic and fully automatic firearm can, but requires the Archaic Weapons Proficiency (Bows) in order to use without penalty. It does not suffer any of the Recoil penalties for using these attacks.

Comes with three full 25 round bolt drums and a fixed stock.

Zat'nik'tel The Zat'nik'tel, or Zat, as it's more commonly called, is a snake-like electric weapon that fires a bolt of electricity to disable and kill any those who it hits. On a successful hit, the bolts deal electricity damage and the target must make a Fortitude Saving Throw [TN12] or be Paralyzed for 2d3 rounds. All subsequent hits, while Paralyzed, will continue the paralysis by 1d3 rounds. It runs on electricity, and must be charged for six hours after its battery is expended. The Zat'nik'tel is considered an electric arm.

Ma'tok Staff The Ma'tok or staff weapon is a 6 foot long metal staff with a charge plasma emitter on one end and the rugged coolant housing on the other. This weapon can be wielded like a quarterstaff if the user has Archaic Weapons Proficiency (Staffs). The staff has both a standard emitter and a charge emitter. The charge emitter on this weapon is locked to a level two charge for 8 Combat Points, and can not be charged beyond two charges. The coolant pack is non-removable. After 24 hours of non-use, the coolant pack will refresh. Due to its awkward handling and aiming, it has a permanent -3 attack penalty. The Ma'tok Staff is considered a plasma arm.

Weapon	Damage	Magazine	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
Gas Operated Crossbow	3d3 Pi	Drum:25:10	O	45'	SL/Auto(S)	L	8.3	65	0%	None
Zat'nik'tel	2d6 Elec	Int:20	—	35'	Semi	S	1.5	100	0%	M&P
Ma'tok Staff	100kW/ 4d8+2	Heat:120	—	25'	Semi/Charge	L	5.6	265	0%	M&P

Table 47: Other Weapons

Caseless Firearms

Caseless ammunition is a type of small arms ammunition that eliminates the cartridge case that typically holds the primer, propellant, and projectile together as a unit. Caseless ammunition is an attempt to reduce the weight and cost of ammunition by dispensing with the case, which is typically precision made of brass or steel, as well as simplify the operation of repeating firearms by eliminating the need to extract and eject the empty case after firing.

Modern caseless ammunition consists of a solid mass of propellant, cast into shape to form the body of the cartridge, with cavities to accept the bullet and a primer which are glued into place. The completed cartridge might also contain a booster charge of powdered propellant, to, help ignite the body and provide initial thrust to the bullet.

Caseless rounds are limited by the fact that the cartridge body is primarily a propellant, and structural properties are secondary to the combustion properties. Because of this, caseless rounds are prepackaged in magazines instead of sold in boxes, and come packaged ready to use. The magazines are made of low cost plastic, and made to be used once and then discarded.

Caseless firearms come in three calibers, with their own damages. Magazine size is dependent on what kind of firearm is using it, and is noted in the chart below.

Caseless weapons are considered personal firearms and take all the benefits and penalties that personal firearms would take.

All firearms are ballistic damage weapons and have a critical threat range of 16-18, unless otherwise noted.

There are two primary model groups of Caseless firearms: The United Colonial Navy, notated as the UCN, and the United Colonial Marine Corps, notated as the UCMC. While the ammunition is identical, the magazines are not.

Caliber	Damage	Recoil Mod.	Craft Category
.28 Caseless	1d12+3	-4	5th
.40 Caseless	2d12+6	-5	8th
.20 Hi-Velo Caseless	4d12+4	-8	10th

Table 48: Caseless Ammunition Damage

Caliber	Size	Compatible Firearms	Cost	Wt
.28 Caseless	12	MX Series M15 Series M6 Series	1 WP for 25	0.4
.28 Caseless	18	M15 Series M6 Series M7 Series	1 WP for 13	0.6
.28 Caseless	30	M7 Series M6 Series	1 WP for 7	0.7
.28 Caseless	55	M7 Series	1 WP for 3	0.7
.40 Caseless	40	MB5 Series	1 WP for 15	0.8
.40 Caseless	60	MA5 Series MB5 Series MG10 Series	1 WP for 8	0.9
.40 Caseless	120	MA5 Series MG10 Series	1 WP for 3	1.1
.40 Caseless	300	MG10 Series	1 WP for 1	1.6
.20 HV Caseless	10	MS9 Series	1 WP for 6	0.3

Table 49: UCN Caseless Magazines

Caliber	Size	Compatible Firearms	Cost	Wt
.28 Caseless	12	M6 Series M15 Series MX Series	1 WP for 25	0.4
.28 Caseless	18	M6 Series M7 Series M15 Series	1 WP for 13	0.6
.28 Caseless	48	M39 Series	1 WP for 6	0.7
.28 Caseless	72	M39 Series	1 WP for 3	0.7
.40 Caseless	10	M4RA Series	1 WP for 25	0.3
.40 Caseless	25	M4RA Series M42A Series	1 WP for 20	0.6
.40 Caseless	50	M42A Series M41A Series	1 WP for 10	0.8
.40 Caseless	95	M41A Series M43A Series	1 WP for 4	0.9
.40 Caseless	140	M43A Series	1 WP for 1	2.3
.40 Caseless	240	M43A Series	2 WP for 1	3.4
.40 Caseless	350	M56 Smartgun	2 WP for 1	3.6
.40 Caseless	500	M56 Smartgun	3 WP for 1	5.0

Table 50: UCMC Caseless Magazines

MX Series

The MX series of handgun is a double stack, semi-automatic handgun, used by both United Colonial Marine Corps and the United Colonial Navy for clandestine work, but is also sold on the open market as a concealable caseless handgun. All MX series handguns can be interfaced with various technologies. All MX variants are considered handguns unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr.
MXA	.28 Caseless (1d12+3/-4)	F B O	20'	PA	T	1.5	23	0%	L
Permanent grip sight and one prepackaged 12 round magazine.									
MXB	.28 Caseless (1d12+3/-4)	F B O	20'	PA	T	1.5	27	0%	L
Permanent grip sight, a permanent high visibility sight and one prepackaged 12 round magazine.									
MXC	.28 Caseless (1d12+3/-4)	F B O	15'	PA	D	1.0	21	0%	L
Permanent grip sight, a secure-clip and one prepackaged 12 round magazine.									
MXD	.28 Caseless (1d12+3/-4)	F B O 1T	20'	PA/2RB	T	1.7	32	0%	R
Permanent grip sight, a magazine foregrip and one prepackaged 12 round magazine. This is considered a machine pistol.									
MXM	.28 Caseless (1d12+3/-4)	F B O	30'	PA	T	1.8	50	0%	R
Match barrel, a permanent high quality lvl. 1 suppressor and one prepackaged 12 round magazine.									

Table 51: MX Series Handguns

M15 Series

The M15 series of handgun is a double stack, semi-automatic handgun, used by the United Colonial Marine Corps. The M15A is a standard service handgun, primarily deployed with officers, with a rugged frame for use as a melee weapon. The M15O is the officer model, upgraded with a precision barrel. The M15T is a machine pistol tactical version, built for multi-role tactical uses All M15 series handguns can be interfaced with various technologies. All M15 variants are considered handguns unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr.
M15A	.28 Caseless (1d12+3/-4)	F B O 1T	35'	PA	S	3.0	40	0%	L
Fortified frame, permanent high visibility sights, a permanent standard laser sight, and one prepackaged 18 round magazine.									
M15O	.28 Caseless (1d12+3/-4)	F B O 1T	35'	PA	S	3.2	60	0%	L
Fortified frame, permanent high visibility sights, precision barrel, a permanent standard laser sight and one prepackaged 18 round magazine.									
M15T	.28 Caseless (1d12+3/-4)	F B O 1T	35'	PA/2RB	S	3.2	78	0%	R
Permanent red dot sight, integral stock, permanent 12 Gauge shotgun (15' range, Int:1, SL action) and one prepackaged 18 round magazine. This is considered a machine pistol.									

Table 52: USCS Caseless Handguns

M6 Series

The M6 series of handgun is a double stack, semi-automatic handgun, used by the United Colonial Navy. The A and B series have black and satin stainless steel finishes, respectfully. The M6C is a magnum style handgun with an extended barrel for more range out of the .28 Caseless round. The M6I has a slot for a detachable stock, and the M6S has a built-in suppressor. All M6 series handguns can be interfaced with various technologies. All M6 variants are considered handguns unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr.
M6A/M6B	.28 Caseless (1d12+3/-4)	F B O 1T	30'	PA	S	2.0	25	0%	L
Permanent tactical flashlight and one prepackaged 18 round magazine.									
M6C	.28 Caseless (1d12+3/-4)	F B O 1T	40'	PA	S	2.5	30	0%	L
Permanent tactical flashlight and one prepackaged 18 round magazine. -1 to Stealth to hide weapon.									
M6I	.28 Caseless (1d12+3/-4)	F B O 1T	30'	PA/3RB	S	2.8	35	0%	R
Detachable stock and a permanent tactical flashlight and one prepackaged 18 round magazine. Considered a Machine Pistol.									
M6S	.28 Caseless (1d12+3/-4)	F O 1T	30'	PA	S	2.6	32	0%	R
Permanent tactical flashlight, a permanent high quality lvl. 2 suppressor and one prepackaged 18 round magazine.									

Table 53: UCN Caseless Handguns

M7 Series

The M7 series of submachine guns is a double stack, automatic firearms. The only exception to this is the M7C, which is the civilian version built for civilian markets. Chambered for .28 Caseless, it shares the same caliber ammunition and magazines with the M6 series of handguns, depending on the magazine size. All M7 series SMGs can be interfaced with various technologies. All M7 variants are considered SMGs, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
M7A	.28 Caseless (1d12+3/-4)	F B O 2T	30'	SL/Auto(M)	L	3.0	38	0%	M&P
Fixed stock, vertical foregrip, a permanent tactical flashlight and one prepackaged 30 round magazine.									
M7B	.28 Caseless (1d12+3/-4)	F B O 2T	30'	SL/Auto(M)	M	3.0	38	0%	M&P
Integral stock, vertical foregrip, a permanent tactical flashlight and one prepackaged 30 round magazine.									
M7C	.28 Caseless (1d12+3/-4)	F B O 3T	30'	SL	L	3.0	28	0%	L
Fixed stock, vertical foregrip, a permanent tactical flashlight and one prepackaged 30 round magazine.									
M7K	.28 Caseless (1d12+3/-4)	F B O	30'	SL/Auto(F)	M	2.5	42	0%	M&P
Vertical foregrip, a permanent tactical flashlight and one prepackaged 30 round magazine.									
M7S	.28 Caseless (1d12+3/-4)	F O 2T	30'	SL/Auto(M)	L	3.0	38	0%	M&P
Fixed stock, vertical foregrip, permanent high quality lvl. 2 suppressor, a permanent tactical flashlight and one prepackaged 30 round magazine.									

Table 54: UCN Caseless SMGs

M39 Series

The M39 series of submachine guns is a double stack, automatic firearms.The M39 Series are chambered in .28 Caseless. All M39 series SMGs can be interfaced with various technologies. All M39 variants are considered SMGs, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
M39	.28 Caseless (1d12+3/-4)	F B O 3T	45'	CB: SL/Auto(F)	L	3.0	45	0%	M&P
Synthetic stock, patrol sling, and one prepackaged 48 round magazine.									
M39K	.28 Caseless (1d12+3/-4)	F B O 2T	25'	CB: SL/Auto(F)	M	2.6	49	0%	M&P
Permanent integral stock, permanent vertical foregrip, patrol sling, and one prepackaged 48 round magazine									

Table 55: UCMC Caseless SMGs

MA5 Series

The MA5 series is a series of caseless rifles built around the assault rifle style of construction, forgoing burst fire for full auto, used by the United Colonial Navy. It is chambered for .40 Caseless. Generally, this weapon possesses semi-automatic and full automatic rates of fire, but a semi-automatic only mode is produced for civilian sale and use. There are also other variants that have a 12 Gauge shotgun or a 40mm grenade launcher already integrated into the rifle. All MA5 series assault rifles can be interfaced with various technologies. All MA5 series rifles are considered assault rifles, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
MA5A	.40 Caseless (2d12+6/-5)	F B O 3T	60'	SL/Auto(M)	L	8.1	50	0%	M&P
Fixed stock, a permanent tactical flashlight and one prepackaged 60 round magazine.									
MA5C	.40 Caseless (2d12+6/-5)	F B O 3T	60'	SL	L	8.1	30	0%	L
Fixed stock, a permanent tactical flashlight and one prepackaged 60 round magazine.									
MA5G	.40 Caseless (2d12+6/-5)	F B O 2T	60'	SL/Auto(M)	L	10.6	80	0%	M&P
Fixed stock, permanent 40x46mm grenade launcher (60' range, Int:1), a permanent tactical flashlight and one prepackaged 60 round magazine.									
MA5K	.40 Caseless (2d12+6/-5)	F B O 3T	45'	SL/Auto(F)	L	5.0	55	0%	M&P
Fixed stock, shortened rifle barrel, a permanent tactical flashlight and one prepackaged 60 round magazine.									
MA5S	.40 Caseless (2d12+6/-5)	F O 3T	60'	SL/Auto(M)	L	8.8	65	0%	M&P
Fixed stock, permanent high quality lvl. 3 suppressor, a permanent tactical flashlight and one prepackaged 60 round magazine.									
MA5T	.40 Caseless (2d12+6/-5)	F B O 2T	60'	SL/Auto(M)	L	10.3	60	0%	M&P
Fixed stock, permanent 12 Gauge shotgun (25' range, Int:3, SL action), a permanent tactical flashlight and one prepackaged 60 round magazine.									

Table 56: UCN Caseless Assault Rifles

MB5 Series

The MB5 series is a recent development stemming from what was learned when the MA5 was fielded. Like its counterpart, it is also chambered for .40 Caseless and is used by the United Colonial Navy. Unlike its counterpart, it replaces the full auto mode for a 3 round burst as standard, and includes a 3x advanced combat sight in place of a changeable optic rail, as well as a redesigning of the barrel to increase its effective range. All MB5 series battle rifles can be interfaced with various technologies, and are considered battle rifles, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
MB5A	.40 Caseless (2d12+6/-5)	F B 3T	(70') 90'	SL/3RB	L	8.8	60	0%	R
Fixed stock, permanent advanced combat sight, a permanent tactical flashlight and one prepackaged 40 round magazine.									
MB5C	.40 Caseless (2d12+6/-5)	F B 3T	(70') 90'	SL	L	8.8	40	0%	L
Fixed stock, permanent advanced combat sight, a permanent tactical flashlight and one prepackaged 40 round magazine.									
MB5G	.40 Caseless (2d12+6/-5)	F B 3T	(70') 90'	SL/3RB	L	8.8	95	0%	R
Fixed stock, permanent 40x46mm grenade launcher(60' range, Int:1), permanent advanced combat sight, a permanent tactical flashlight and one prepackaged 40 round magazine.									
MB5K	.40 Caseless (2d12+6/-5)	F B 3T	(50') 65'	SL/3RB	L	5.8	55	0%	R
Fixed stock, permanent advanced combat sight, a permanent tactical flashlight and one prepackaged 40 round magazine.									
MB5S	.40 Caseless (2d12+6/-5)	F 3T	(70') 90'	SL/3RB	L	9.7	75	0%	R
Fixed stock, permanent advanced combat sight, a permanent high quality lvl. 3 suppressor, a permanent tactical flashlight and one prepackaged 40 round magazine.									

Table 57: UCN Caseless Battle Rifles

M41A Series

The M41 series is a series of caseless rifles built around the assault rifle style of construction used by the United Colonial Marine Corps. It is chambered for .40 Caseless. It's construction and focus is about capacity and volume of fire at the cost of weight. It has multiple iterations of the rifle, each with different features. The MK I was the initial release, boasting a large magazine and a built in grenade launcher, at the hefty cost of weight. The MK II is a weight reduction model and the current issue, trimming the magazine size for less weight, but adds a 3RB feature. All M41A series assault rifles can be interfaced with various technologies. All M41A series rifles are considered assault rifles, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
M41A MK I	.40 Caseless (2d12+6/-5)	F B O 3T	65'	SL/Auto(F)	L	9.0	100	0%	M&P
Folding stock, patrol sling, permanent underbarrel grenade launcher (25' range, Int: 3, pump action), and one prepackaged 95 round magazine.									
M41A MK II	.40 Caseless (2d12+6/-5)	F B O 3T	60'	SL/3RB/Auto(F)	L	8.2	82	0%	M&P
Folding stock, patrol sling, permanent underbarrel grenade launcher (25' range, Int: 3, pump action), and one prepackaged 50 round magazine.									

Table 58: UCMC Caseless Assault Rifles

M42A Series

The M42 series is a series of caseless rifles built around the battle rifle style of construction used by the United Colonial Marine Corps. It is chambered for .40 Caseless. It's construction and focus loses the capacity and volume of fire for an extended barrel, accuracy, and accuracy improvements. It has multiple iterations of the rifle, each with different features. The MK I was the initial release, boasting improved all around usage at the hefty cost of weight, choosing to incorporate a 2RB feature. The MK II removed that feature and instead chose to focus on accuracy with a precision barrel. All M42A series assault rifles can be interfaced with various technologies. All M42A series rifles are considered battle rifles, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
M42A MK I	.40 Caseless (2d12+6/-5)	F B O 3T	85'	SL/2RB	L	9.5	95	0%	R
Fixed folding stock, patrol sling, heavy barrel and one prepackaged 25 round magazine.									
M42A MK II	.40 Caseless (2d12+6/-5)	F B O 3T	85'	SL	L	9.5	95	0%	L
Fixed folding stock, patrol sling, heavy precision barrel and one prepackaged 25 round magazine.									

Table 59: UCMC Caseless Battle Rifles

MS9 Series

The MS9 series is a set of sniper rifles that use the specially made .20 Hyper Velocity caseless round. This round is an extremely light round, moving at extreme speeds to tear holes in armor, personnel, and material components, from long distances. All MS9 series sniper rifles are equipped with a telescopic sight and no type of iron sights. All sniper rifles here with their range listed is with the attached telescopic sights. All MS9 series sniper rifles can be interfaced with various technologies. All MS9 series sniper rifles are considered anti-materiel rifles, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
MS9A	.20 HV Caseless (4d12+4/-8)	F B O 1T	(100') 200' - 300'	SL	H	15.0	80	0%	L
Ergonomic stock, bipod, match barrel, a 10-22× adjustable telescopic sight and one prepackaged 10 round magazine.									
MS9K	.20 HV Caseless (4d12+4/-8)	F B O 1T	(80') 140'	SL	L	11.9	90	0%	L
Ergonomic stock, bipod, match barrel, a 8× telescopic sight and one prepackaged 10 round magazine. This weapon is a Designated Marksman Rifle.									
MS9N	.20 HV Caseless (4d12+4/-8)	F B O 1T	(100') 175'	SL	H	15.6	320	0%	L
Ergonomic stock, bipod, match barrel, a 9× day/night sight and one prepackaged 10 round magazine.									
MS9T	.20 HV Caseless (4d12+4/-8)	F B O 1T	(100') 125'	SL	H	15.0	450	0%	L
Ergonomic stock, bipod, match barrel, a 3× thermal sight and one prepackaged 10 round magazine.									
MS9S	.20 HV Caseless (4d12+4/-8)	F O 1T	(100') 200' - 300'	SL	H	16.2	160	0%	R
Ergonomic stock, bipod, permanent lvl. 5 suppressor, match barrel, a 10-22× adjustable telescopic sight and one prepackaged 10 round magazine.									

Table 60: UCN Caseless anti-materiel Rifles

M4RA Series

The M4RA series is a sniper rifle that use the .40 caseless round, to maintain ammo commonality with the M41A and the M42A. Unlike it's navy counterpart, the M4RA series sniper rifles have iron sights and no built in sniper scope, allowing the detachment of the scope when necessary to use as a normal rifle. The MK I was the initial release, focused primarily on range and accuracy at any cost. The MK II was a more portable version, cutting the barrel down and equipping it with a foldable stock to make it handier for mobile troops. All M4RA series sniper rifles can be interfaced with various technologies. All M4RA series sniper rifles are considered Designated Marksman rifles, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr
M4RA MK I	.40 Caseless (2d12+6/-5)	F B O 3T	150'	SL	L	12.5	325	0%	L
Fixed stock, patrol sling, match barrel, and one prepackaged 10 round magazine.									
M4RA MK II	.40 Caseless (2d12+6/-5)	F B O 3T	130'	SL	L	12.5	325	0%	L
Fixed folding stock, patrol sling, shortened rifle precision barrel, and one prepackaged 10 round magazine.									

Table 61: UCMC Caseless Designated Marksman Rifles

MG10 Series

The MG10 Series is a series of light machine guns, chambered in .40 Caseless that fulfill the role of squad automatic weapon. A weapon with a high rate of fire, and high magazine capacity, it is usually issued to support members to provide cover fire, as well as a force multiplier. This weapon is backwards compatible with MA5 and MB5 magazines.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr.
MG10A	.40 Caseless (2d12+6/-5)	F O 1T	100'	SL/Auto(F)	L	12.5	70	0%	M&P
Buffer stock, heavy barrel, ported barrel, a buttpad and one prepackaged 120 round magazine.									
MG10S	.40 Caseless (2d12+6/-5)	F O 1T	100'	SL/Auto(F)	L	12.5	130	0%	M&P
Buffer stock, heavy barrel, ported barrel, permanent lvl. 3 suppressor, a buttpad and one prepackaged 120 round magazine.									

Table 62: UCN Caseless Light Machine Guns

M43A Series

The M43A Series is a series of light machine guns, chambered in .40 Caseless that fulfill the role of squad automatic weapon. A weapon with a high rate of fire, and high magazine capacity, it is usually issued to support members to provide cover fire, as well as a force multiplier. This weapon is backwards compatible with some M41A magazines. All M43A series light machine guns can be interfaced with various technologies. All M43A series light machine guns are considered light machine guns, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr.
M43A MK1	.40 Caseless (2d12+6/-5)	F O 1T	80'	Auto(F)	L	12.7	130	0%	M&P
Fixed stock, patrol sling, bipod, and one prepackaged 140 round magazine.									

Table 63: UCMC Caseless Light Machine Guns

M56 Smartgun

The M56 Smartgun is a harnessed general purpose machine gun, chambered in .40 Caseless that fulfill the role of squad automatic weapon. A weapon with a high rate of fire, and extremely high magazine capacity, it is usually issued to support members to provide cover fire, as well as a force multiplier. It uses large ammunition drums and can lay down volumes of fire. Due to it's weight and size, it is issued with a combat harness with a stabilized articulation unit, that relieves the entire weight of the gun with it's drum, and grants it a +8 Recoil Reduction when used with the harness. The M56 Smartgun can not be fired while prone, only standing or kneeling. The M56 Smartgun can be interfaced with various technologies. The M56 Smartgun is considered a light machine gun, unless noted otherwise.

Weapon	Caliber (Dam/Rec)	Upg	Rng	RoF	Sz	Wt	Cost	Err	Restr.
M56 Smartgun	.40 Caseless (2d12+6/-5)	B	120'	Auto(M)/Auto(F)	L	26.4	600	0%	M&P
Combat Harness with stabilized articulation arm (See Armor) and one prepackaged 350 round smartgun drum.									

Table 64: UCMC Caseless Light Machine Guns

Plasma Arms

Plasma arms are guns that fire bolts of superheated plasma at a target, burning a hole in any traditional style armor the target may be wearing. Because of their plasma energy core, these weapons generate significant amounts of heat that must be cooled efficiently and constantly.

The coolant issue was solved by introducing a coolant pack into the main plasma core of the weapon, that can be ejected when it is too hot, and replaced with a fresh one. The core of the coolant core is a refrigerant gel that surrounds a liquid nitrogen core. The coolant cores are interchangeable with any plasarm, and can be reused if they are allowed to cool for 24 hours, or 4 hours, if they are submerged in a specially made chiller. A plasarm's number of shots is dependent on its Heat, which is how much heat it can transfer into its coolant pack before it becomes too hot to use. Any plasarm that generates enough heat to meet or exceed its Heat immediately shuts down unless a fresh coolant pack is put into the plasarm, similar to how a magazine works in a firearm.

Plasma weapons behave unlike any kind of firearm, allowing them to be used in ways unlike a normal firearm. Plasma arms can be charged, where the energy is released but the containment field for the emitter is kept on intentionally, causing the plasma to stew and grow hotter, before being released for a devastating attack against a single target, but generate far more heat than a single shot would. Charging a plasma weapon too long will cause it to engage a failsafe and shut down for 5 minutes, while the weapon reboots, recalibrates, and checks its coolant stores.

Plasma weapons, if the mode exists for the model, can be set to pulse, that works similarly to a firearm's burst fire setting, as well as a bounce shot, that allows a user to bounce the plasma off of a wall and attack characters around corners. Plasma weapons also can be used to fire a continuous stream of plasma, coating a nearby area in superheated plasma that is unable to be avoided, as well as be used to instead firing a large bolt of plasma energy to cover a large area with energy.

Plasma weapons are built differently from standard firearm. The major difference is that plasma weapons lack barrels, they instead they have emitters, that glow a warm blue, green, red, yellow, orange, or violet when not in use and fire bolts of plasma of the same color as their emitter. The color of the emitter is entirely dependent on the manufacturer, and varies from place to place. Plasma weapons don't have stock upgrades, as the stock is built into the plasarm. This stock is unable to take any upgrades. A plasarm can accept three emitter upgrades and six frame upgrades. Plasarms can, however, fit and use the same kinds of holsters, slings, and other outward tactical equipment.

Because they are sensitive pieces of technology, as opposed to firearm counterparts, they can not be used to pistol whip or buttstroke and any attempt to do so will immediately cause the plasarm to become damaged and require repairs (Complex, TN25), using the Craft (Electronics) skill. Any damage to the weapon will also immediately cause the plasarm to become damaged and require repairs (Complex, TN25), using the Craft (Electronics) skill.

Like many great discoveries, it was accidentally discovered that an activated psiblade or plasma blade has the ability to deflect plasma fire. A skilled individual can even aim the deflected blast, but training to do this is something very few skilled individuals actually attempt because of the danger involved. Plasma blades and psiblades can also swat bullets, and thrown weapons out of the air, though these are instantly destroyed rather than deflected.

Plasarms require the Personal Plasmas Proficiency to use without a –4 attack penalty, and to change out coolant packs.

All plasarms are plasma damage weapons and have a critical threat range of 16-18, unless otherwise noted.

All plasarms when purchased have a single standard coolant pack installed.

Plasarms with the semi-automatic firing mode can perform potshot attacks, and double-tap attacks, and have an effective Caliber Recoil Penalty of 0. When performing a double tap attack, Plasarms have a —3 attack penalty.

Plasma Damage—

With plasma weapons comes a new damage: plasma damage. This damage type represents a searing hot ball of plasma fired at an individual. It is not affected by any current Damage Reductions, unless specifically noted.

Plasma damage can not cause bleeding and performs critical damage just as any other weapon does.

Wattage	Damage	Category
10 kW	1d8–2	1st
15 kW	1d8	2nd
25 kW	1d8+1	3rd
35 kW	2d8	4th
40 kW	2d8+1	5th
45 kW	2d8+2	6th
50 kW	3d8	7th
65 kW	3d8+2	8th
75 kW	3d8+3	9th
90 kW	4d8	10th
100 kW	4d8+2	11th
120 kW	4d8+4	12th
135 kW	5d8	13th
165 kW	5d8+3	14th
180 kW	6d8+2	15th
200 kW	7d8+1	16th

Table 65: Wattage

Plasma Handguns

Plasma handguns are small, concealable plasarms that provide security and firepower in a small package. They are kept by a large number of people, for security, protection, or for firepower when a larger plasarm would be too bulky and too cumbersome. Plasma handguns usually have a single emitter, that provides all of the plasma energy for the shots. As size was a major factor, the Heat is some of the lowest of the plasarms, sacrificing good heat transfer for size. All plasma handguns can be interfaced with various technologies. For the purpose of feats and upgrades, plasma handguns are considered handguns with detachable magazines, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
PEP-08	10 kW (1d8-2)	10	F E	20'	Semi	T	0.6	7	L
Permanent glow emitter.									
PEP-17	35 kW (2d8)	9	F E	25'	Semi/Bounce	T	0.8	26	L
Permanent glow emitter and a bounce emitter.									
PEP-20	15 kW (1d8)	5	F E	30'	Semi	T	0.6	14	L
Permanent glow emitter.									
PEP-22	25 kW (1d8+1)	12	F E	30'	Semi/Charge	S	0.8	18	L
Permanent glow emitter, charge emitter, and 1 spare standard coolant pack.									
PEP-25	35 kW (2d8)	16	F E 1T	40'	Semi/Stun	S	1.1	22	L
Permanent glow emitter, stun emitter, and 2 spare standard coolant packs.									
PEP-28	35 kW (2d8)	22	F E	40'	Semi/Charge	S	1.3	30	L
Permanent glow emitter, charge emitter, and 2 spare standard coolant packs.									
PEP-30	35 kW (2d8)	19	F E	40'	Semi/Charge/Bounce	M	1.3	36	L
Permanent glow emitter, charge emitter, bounce emitter, and 1 spare standard coolant pack.									
PEP-34	25 kW (1d8+1)	18	F E 1T	35'	Semi/Charge/Grid	M	1.3	36	M&P
Permanent glow emitter, grid emitter, and 1 spare standard coolant pack.									
PEP-40	25 kW (1d8+1)	18	F E	45'	Semi/Charge	M	1.5	21	L
Permanent glow emitter and 1 spare standard coolant pack.									

Table 66: Plasma Handguns

Plasma SMGs

Plasma SMGs are built under the notion that more firepower is better. Unlike plasma handguns that function from a single emitter, plasma SMGs instead have dual emitters, either stacked one atop another or set side by side to provide much more rapid fire without overheating nearly as fast. They are still more focused on firepower, and lack the range or wattage of a plasma rifle. All plasma SMGs can be interfaced with various technologies. For the purpose of feats and upgrades, plasma SMGs are considered SMGs, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
APEW-26	35 kW (2d8)	34	F E O 2T	45'	Semi/Pulse/Charge/Grid	M	1.9	45	M&P
Permanent glow emitter, pulse emitter, charge emitter, grid emitter, patrol sling, and 1 spare standard coolant pack.									
APEW-29	35 kW (2d8)	30	F E 1T	45'	Semi/Pulse	M	1.9	20	R
Pulse emitter, patrol sling, and 2 spare standard coolant packs.									
APEW-30	35 kW (2d8)	30	F E 1T	40'	Semi/Grid	M	1.9	20	M&P
Grid emitter, patrol sling, and 2 spare standard coolant packs.									
APEW-34	25 kW (1d8+1)	32	F E	45'	Semi/Pulse	M	1.9	14	R
Pulse emitter, patrol sling, and 2 spare standard coolant packs.									
APEW-36	25 kW (1d8+1)	38	F E	55'	Semi	L	2.5	29	L
Patrol sling, and 2 spare standard coolant packs.									

Table 67: Plasma SMGs

Plasma Rifles

Plasma rifles make up the bulk of most plasma weapons produced, and are by far the most well represented of the plasarms. Plasma rifles boast very good Heat, impressive range, and a wide array of features and points for upgrades. They trade all this off for the inability to be concealed, which is usually not a major factor in most instances. All plasma rifles can be interfaced with various technologies. For the purpose of feats and upgrades, plasma rifles are considered assault rifles, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
M2918 PAR	90 kW (4d8)	20	F E	70'	Semi/Grid	L	3.1	25	M&P
Permanent grid emitter, bipod, and 2 spare coolant packs.									
GarjanArms Ridgecatcher	40 kW (2d8+1)	45	F E O 2T	50'	Semi	L	2.8	37	L
Permanent shaped emitter (diamond), permanent power conserve emitter, extended range emitter, ammunition readout, patrol sling, and 1 spare quickcool coolant pack.									
GarjanArms Permafrost	100 kW (4d8+2)	5	F E O 2T	80'	Semi	L	2.8	37	L
Permanent shaped emitter (diamond), permanent power conserve emitter, ammunition readout, patrol sling, and 2 spare quickcool coolant packs.									
PR-100	65 kW (3d8+2)	45	F E O 5T	75'	Semi/Pulse/Wave	L	2.6	35	M&P
Permanent glow emitter, pulse emitter, wave emitter, patrol sling, and 3 spare standard coolant packs.									
PR-101	65 kW (3d8+2)	45	F E O 5T	75'	Semi/Pulse/Bounce	L	2.6	35	R
Permanent glow emitter, pulse emitter, bounce emitter, patrol sling, and 3 spare standard coolant packs.									
PR-103	45 kW (2d8+2)	65	F E O 5T	75'	Semi/Pulse/Wave	L	2.6	32	M&P
Permanent glow emitter, pulse emitter, wave emitter, patrol sling, and 3 spare standard coolant packs.									
PR-105	45 kW (2d8+2)	65	F E O 5T	75'	Semi/Pulse/Bounce	L	2.6	32	R
Permanent glow emitter, pulse emitter, bounce emitter, patrol sling, and 3 spare standard coolant packs.									
PR-108	45 kW (2d8+2)	65	F E O 5T	75'	Semi/Charge	L	2.6	29	L
Permanent glow emitter, charge emitter, patrol sling, and 4 spare standard coolant packs.									
PR-109	45 kW (2d8+2)	65	F E O 5T	75'	Semi/Stun	L	2.6	31	L
Permanent glow emitter, stun emitter, patrol sling, and 4 spare standard coolant packs.									
PR-115	65 kW (3d8+2)	45	F E O 5T	75'	Semi/Pulse	L	2.6	37	R
Permanent glow emitter, pulse emitter, arc emitter, patrol sling, and 3 spare standard coolant packs.									
PR-120	100 kW (4d8+2)	10	F E O 5T	65'	Semi/Pulse	L	2.9	49	R
Permanent glow emitter, pulse emitter, patrol sling, and 3 spare standard coolant packs.									

Table 68: Plasma Rifles

Plasma Sniper Rifles

Plasma sniper rifles are focused on distance rather than rapid fire. Because of this, they maximize heat absorption and Heat to offset the heat generated from the longer shots. They also come standard with sights, that increase their effective range. All plasma sniper rifles can be interfaced with various technologies. For the purpose of feats and upgrades, plasma sniper rifles are considered designated marksman rifles, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
Orbital Sap	40 kW (2d8+1)	45	F O 1T	(200') 250'	Semi	L	3.7	95	L
Permanent stun emitter, extended range emitter, 2x day/night sight, bipod, canted sights, lockout sensor, and 2 spare standard coolant packs. This weapon does not have a standard emitter.									
Zima	75 kW (3d8+3)	30	F E O 3T	(225') 510'	Semi	L	4.2	76	L
Extended range emitter, power conserve emitter, 12x telescopic sight, patrol sling, and 3 spare standard coolant packs.									
PPR-118	65 kW (3d8+2)	30	F E O 2T	(180') 360'	Semi/Charge	L	4.0	70	L
Extended range emitter, charge emitter, a 10x telescopic sight, a patrol sling, and 3 spare standard coolant packs.									

Table 69: Plasma Sniper Rifles

Laser Arms

Laser arms are an off-shoot of plasma arms, using the same kind of technology but instead of firing a bolt of plasma, the plasma core powers a high powered laser emitter. Lasers have the benefit of also defeating traditional style armor, with the added benefit of not being able to be deflected by psiblades or plasma blades. Like plasarms, the plasma energy core they have has the downside of generating a significant amount of heat when fired and must be cooled efficiently and constantly. Laser arms generate more energy than their plasma counterparts, but as such, require more coolant. Lasarms also have the downside of being closer ranged, where the power of the shot will be depreciated as the range increases.

Lasarms use the same coolant technology that plasarms use, and suffers the exact same limitations as plasarms in this manner. The coolant packs are interchangeable with any lasarm, and can be reused if they are allowed to cool for 24 hours, or 4 hours, if they are submerged in a specially made chiller. A lasarm's number of shots is dependent on its Heat, which is how much heat it can transfer into its coolant pack before it becomes too hot to use. Any lasarm that generates enough heat to meet or exceed its Heat, immediately shuts down unless a fresh coolant pack is put into the lasarm, similar to how a magazine works in a firearm.

Laser weapons, like plasma weapons also are built differently from standard firearms, also lacking barrels instead possessing emitters. The emitter is usually red, green, or blue, and will give a bright flash of the color from the muzzle, when fired. Laser weapons don't have stock upgrades, as the stock is built into the lasarm. This stock is unable to take any upgrades. A lasarm can accept two emitter upgrades and four frame upgrades. Lasarms can fit and use the same kinds of holsters, slings, and other outward tactical equipment.

Because they are sensitive pieces of technology, as opposed to firearm counterparts, they can not be used to pistol whip or buttstroke and any attempt to do so will immediately cause the lasarm to become damaged and require repairs (Complex, TN25), using the Craft (Electronics) skill. Any damage to the weapon will also immediately cause the lasarm to become damaged and require repairs (Complex, TN25), using the Craft (Electronics) skill.

Lasarms require the Personal Plasmas Proficiency feat to use without a –4 attack penalty and to change out coolant packs.

All lasarms are plasma damage weapons and have a critical threat range of 16-18, unless otherwise noted.

Lasarms function like shotguns using shot, in that the range increment gives a penalty to both ranged attack rolls and damage rolls.

Lasarms with the single firing mode can perform potshot attacks.

Laser Handguns

Laser handguns are small, concealable lasarms that provide security and firepower in a small package. They are kept by a large number of people, for security, protection, or for firepower when a larger lasarm would be too bulky and too cumbersome. Laser handguns usually have a single emitter, that provides all of the plasma energy for the shots. As size was a major factor, the Heat is some of the lowest of the lasarms, sacrificing good heat transfer for size. All laser handguns can be interfaced with various technologies. For the purpose of feats and upgrades, laser handguns are considered handguns with detachable magazines, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
Drac-10	10 kW (1d8-2)	15	F E	20'	Single/Pulse	M	2.0	29	R
Pulse emitter, reserve pack, beveled magazine well, and 1 spare standard coolant pack.									
Drac-40	40 kW (2d8+1)	10	F E	20'	Single/Pulse	M	2.4	51	R
Pulse emitter, 2 reserve packs, beveled magazine well, and 2 spare standard coolant pack.									
Type 01 LXP	35 kW (2d8)	15	F E	30'	Single/Pulse	S	1.2	24	R
Infrared emitter, pulse emitter, and 2 spare standard coolant packs.									
Type 02 LXP	15 kW (1d8)	18	F E O 1T	40'	Single	M	2.1	44	M&P
X-Ray emitter and 1 spare standard coolant pack.									
Type 03 LXP	65 kW (3d8+2)	8	F E	15'	Single	T	0.6	130	I
Gamma ray emitter									
Type 07 LP	35 kW (2d8)	6	F E	25'	Single	T	1.0	17	L
1 spare standard coolant pack.									
Type 09 LP	50 kW (3d8)	5	F E	20'	Single	T	1.1	18	L
1 spare standard coolant pack.									
Type 13 LP	45 kW (2d8+2)	12	F E 1T	40'	Single	S	1.4	25	L
2 spare standard coolant packs.									
Type 14 LP	40 kW (2d8+1)	14	F E 1T	40'	Single/Focus	S	1.9	34	M&P
Focus emitter and 2 spare standard coolant packs.									
Type 15 LP	45 kW (2d8+2)	12	F E 1T	40'	Single/Focus	S	1.9	35	M&P
Focus emitter and 2 spare standard coolant packs.									
Type 16 LP	65 kW (3d8+2)	5	F E	40'	Single	M	2.3	30	L
2 spare standard coolant packs.									

Table 70: Laser Handguns

Beamcasters

Beamcasters are the bulk of the laser weapon arsenal. While laser pistols function similarly like their firearm and plasma counterparts, beamcasters instead are used more like shotguns, than rifles. They cast a large, powerful laser at a target, that is more pointed, than aimed. The downside is, like all laser weapons, their power depreciates with their range, causing less damage the farther away the target is. Beamcasters make up the bulk of laser weapons produced. They boast very good Heat, and extremely powerful wattage output, and a wide array of features and points for upgrades. All beamcasters can be interfaced with various technologies. For the purpose of feats, rules, and upgrades, beamcasters are considered semi automatic shotguns, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
Type 1X BC	50 kW (3d8)	45	F E O	50'	Single/Scour	L	3.4	60	M&P
Infrared emitter, scour emitter, patrol sling, and a spare standard coolant pack.									
Type 2X BC	75 kW (3d8+3)	55	F E O 1T	(45') 60'	Single/Focus	L	4.5	130	M&P
X-Ray emitter, focus emitter, permanent 1.5x advanced combat sight, patrol sling, and 2 spare standard coolant packs.									
Type 3X BC	165 kW (5d8+3)	12	F E O	70'	Single	M	2.8	245	I
Gamma ray emitter, breakdown frame and two reactive radiators.									
Type 36 BC-MkI	90 kW (4d8)	40	F E O 4T	60'	Single/Pulse/Focus	L	2.6	65	M&P
Pulse emitter, focus emitter, patrol sling, and 3 spare standard coolant packs.									
Type 36 BC-MkII	90 kW (4d8)	40	F E O 5T	60'	Single/Pulse/Scour	L	2.6	63	M&P
Pulse emitter, scour emitter, patrol sling, and 3 spare standard coolant packs.									
Type 38 BC	65 kW (3d8+2)	26	F E 1T	55'	Single/Pulse/Scour	M	1.9	30	M&P
Pulse emitter, scour emitter, patrol sling, and 1 spare standard coolant packs.									
Type 50 BC	165 kW (5d8+3)	10	F E 1T	25'	Single	L	2.4	50	L
Patrol sling, and 2 spare standard coolant packs.									

Table 71: Beamcasters

Explosive Lased Media Gun

The explosive lased media (ELM) gun is a lasarm that fires a large ordnance of a laser at a target, or an area, superheating the target and causing a large explosion in a 15' radius of the target or area hit. Because of how they fire, they have terrible Heat, mostly made to be a single shot, large area weapon, their Heat rating is the worst of any lasarms. To compensate for the lack of Heat they have some of the highest wattage output of any lasarm. All ELM guns can be interfaced with various technologies. For the purpose of feats, rules, and upgrades, ELM guns are considered grenade launchers, except for proficiency. ELM guns do not cause extremity damage from their blast radius.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
Lazed Media Defroster	15 kW (1d8)	8	F	25'	Single	M	6.0	40	R
Permanent Infrared emitter and 3 spare standard coolant packs.									
BB-XLM "Bunker Buster"	165 kW (5d8+3)	3	F 2T	70'	Single	L	8.0	130	M&P
Permanent x-ray emitter, patrol sling, and 3 spare standard coolant packs.									
Type 01 ELM	135 kW (5d8)	1	F O 2T	60'	Single	L	5.0	85	M&P
Patrol sling and 3 spare standard coolant packs.									
Type 02 ELM	135 kW (5d8)	1	—	60'	Single	S	3.8	80	M&P
3 spare standard coolant packs. Mountable on any weapon with a tactical rail. Requires attachment to a tactical rail.									

Table 72: ELM Guns

Electric Arms

Electric arms, called ''Ells'', ''Volters'', or ''Elarms'', are an offshoot of plasma arms, using the same kind of technology to power an electrical resonant transformer, that produces high voltage AC electricity, which is aimed in a loose direction to electrocute and severely burn targets within a specified area. Electric arms have the benefit of also defeating traditional style armor, with the added benefit of not being able to be deflected by psiblades, as well as striking a wider target instead of specifically aiming at a particular target. Like plasarms, the plasma energy core they have has the downside of generating a significant amount of heat when fired and must be cooled efficiently and constantly. Electric arms generate far more energy than their plasma counterparts, requiring more coolant. Electric arms are extremely close range, maxing out their intended range very quickly.

Elarms use the same coolant technology that plasarms use, and suffer the exact same limitations as plasarms in this manner. The coolant packs are interchangeable with any electric weapon, and can be reused if they are allowed to cool for 24 hours, or 4 hours, if they are submerged in a specially made chiller. An elarm's number of shots is dependent on its Heat, which is how much heat it can transfer into its coolant pack before it becomes too hot to use. Any elarm that generates enough heat to meet or exceed its Heat, immediately shuts down unless a fresh coolant pack is put into the elarm, similar to how a magazine works in a firearm.

Electric weapons, like plasma weapons also are built differently from standard firearms, also lacking barrels instead possessing emitters. Electric weapons don't have stock upgrades, as the stock is built into the elarm. This stock is unable to take any upgrades. An elarm can accept two emitter upgrades and three frame upgrades. Elarms fit and use the same kinds of holsters, slings, and other outward tactical equipment.

Because they are sensitive pieces of technology, as opposed to firearm counterparts, they can not be used to pistol whip or buttstroke and any attempt to do so will immediately cause the elarm to become damaged and require repairs (Complex, TN25) , using the Craft (Electronics) skill. Any damage to the weapon will also immediately cause the elarm to become damaged and require repairs (Complex, TN25), using the Craft (Electronics) skill.

Elarms require the Personal Plasmas Proficiency feat to use without a –4 attack penalty and to change out coolant packs.

All elarms are electric damage weapons and have a critical threat range of 16-18, unless otherwise noted.

Elarms function like flamethrowers, in that they have a maximum range, and target an area instead of a singular target. The standard emitter fires in a 5-foot wide arc with a range as long as the range of the elarm, that deals the wattage damage in electricity to all creatures and objects in its path. No attack roll is necessary. Any creature caught in the line of fire can make a Reflex Saving Throw [TN25] to take half damage.

Elarms may not perform potshot attacks.

Electric Handguns

Electric handguns are small, concealable elarms that provide security and firepower in a small package. They are kept by a large number of people, for security, protection, or for firepower when a larger elarm would be too bulky and too cumbersome. As size was a major factor, the Heat is some of the lowest of the elarms, sacrificing good heat transfer for size. All elarm handguns can be interfaced with various technologies. For the purpose of feats and upgrades, electric handguns are considered handguns with detachable magazines, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
Model 3 Voltgun 1 spare standard coolant pack.	65 kW (3d8+2)	4	F E	15'	Single	S	1.6	29	L
Model 7 Voltgun 2 spare standard coolant packs.	50 kW (3d8)	7	F E	20'	Single	S	1.1	33	L
Model 19 Voltgun 2 spare standard coolant packs.	45 kW (2d8+2)	12	F E 1T	30'	Single	S	1.4	24	L

Table 73: Electric Handguns

Electric Rifles

Electric rifles make up the bulk of most electric weapons produced, and are by far the most well represented of the elarms. They have better range than their handheld counterparts, but still suffer from the very short maximum range that electric weapons have. They do have excellent heat and coolant, allowing them to be used for a long time before switching out coolant packs. All electric rifles can be interfaced with various technologies. For the purpose of feats and upgrades, electric rifles are considered assault rifles, except for proficiency.

Weapon	Wattage	Heat	Upg	Rng	ToF	Sz	Wt	Cost	Restr
Model 1 Voltrifle	90 kW (4d8)	20	F E O 5T	50'	Single	L	2.6	35	L
Patrol sling and 3 spare standard coolant packs.									
Model 55 Voltfan	100 kW (4d8+2)	16	F E O 5T	40'	Single	L	2.6	35	L
Fan Emitter, patrol sling, and 3 spare standard coolant packs.									
Model 187 Voltrifle "Sniper Volter"	10 kW (1d8-2)	10	F E O 5T	100'	Single	L	2.6	32	L
Patrol sling and 5 spare standard coolant packs.									
Model 224 Voltrifle	45 kW (2d8+2)	30	F E O 5T	60'	Single	L	2.6	32	L
Patrol sling, and 3 spare standard coolant packs.									

Table 74: Electric Rifles

Non-ballistic Ranged Weapons

Chem Spray

Chem spray bears a very similar appearance to pepper spray and other chemical irritants, but with a much more deadly truth: They contain lethal chemicals as opposed to non-lethal irritants. To use chem spray, make a ranged touch attack against the target. Chem spray is limited to 5 range increments.

Spinfusor

A spinfusor is a purpose built crossbow that fires handheld circular saw blades. Prior to launching them, there is a small motor that spins the blade for stability and effectiveness before being fired. Blades cost 2 WP each, and weigh 0.3 lb. All damage done by the spinfusor is slashing. The spinfusor is considered a crossbow and requires the Archaic Weapons Proficiency (Bows) to use without penalty. Building a spinfusor costs 20 WP and requires a Craft (Mechanical) check [TN19].

RPC M1B

The rocket propelled chainsaw is an anti-personnel weapon, that combines the shredding devastation of a chainsaw with the range of a rocket-delivered weapon. The RPC has a maximum of 5 range increments. All damage done by the RPC is slashing. Unlike most of the weapons listed, a RPC M1B can not be bought, but instead must be built, with Craft (Mechanical) check [TN30]. Each rocket must also be built, and has a Craft (Mechanical) check [TN15], with a raw material cost of 9 WP per rocket, that weigh 2.0 lbs. The RPC is considered a rocket launcher and requires the Explosive Weapons Proficiency feat to use without penalty

M240 Incinerator Unit

The M240 Incinerator unit is an upgrade to the standard flamethrower, using damage-resistant canisters over the large backpack tank unit. The M240 can accept multiple types of fuels, each with their own effects and use. The Incinerator unit can perform either a 5-foot wide, 25-foot long line blast of flame, which cost 5 units of fuel, or a 15' cone blast of flame, which cost 10 units of fuel. No attack roll is necessary for either attack. Creatures with cover get a bonus on their Reflex Saving Throw. The M240 Incinerator has a backpack canister unit, that holds 2 canisters. These canisters can be toggled for 0 Combat Points. The M240 Incinerator unit is considered a flamethrower and requires the Exotic Firearms Proficiency (Flamethrowers) feat to use.

Weapon	Damage	Type	Rng	RoF	Magazine	Upg	Sz	Wt	Cost	Restr
Acid Spray	2d6	Acid	5'	Single	Int:1	—	T	0.5	2	None
Cold Spray	3d4	Cold	5'	Single	Int:1	—	S	0.6	2	None
Spinfusor	2d8	Slashing	55'	Single	Int:1	F O	L	8.6	25	None
RPC M1B	10d4+10	Slashing	60'	Single	Int:1	—	L	20.0	18	None
M240 Incinerator Unit	See Text	—	See Text	Single	See Text	—	L	13.0	45	None

Table 75: Non-ballistic Ranged Weapons

Thrown Weapons

Glave

A glave is a throwable weapon not unlike a throwing star that possesses the ability to return to its thrower after it strikes a target. Glaves require the Exotic Melee Weapons Proficiency feat in order to be used without a –4 attack penalty. Glaves can be embedded.

Razorpuck

The razorpuck is a small disc with a pull-pin and a hex key in the center. The inside is filled with a tightly wound spring that has razor wire connected to it, held tight by the pin. When the pin is pulled and the puck hits a hard surface, the tension from the spring is released, causing the puck to whip and spin, releasing the razor wire and shredding anything caught in its range except the square where the razor puck was thrown. Any creature caught in the center of the razorpuck's area must make a Reflex Saving Throw [TN18] or be tripped. The razor puck is a thrown weapon, and performs similarly to a grenade. It can be wound up again using the provided allen wrench and reused. It takes 10 CP to wind a razorpuck. A razorpuck may be created with a Craft (Mechanical) check [TN14] and with a raw material cost of 3 WP.

Weapon	Damage	Critical	Type	Rng	Blast Radius	Sz	Wt	Cost	Restr
Glave	1d8	16-18	Slashing	25'	—	S	1.5	6	None
Razorpuck	2d10	—	Slashing	10'	10'	S	1.0	4	None

Table 76: Thrown Weapons

Pellets

A pellet is a small plastic capsule filled with a substance that is activated by air. When a pellet is thrown down against the ground or against a surface, it releases its contents, that instantly react with the air around it giving a short, but sudden effect. When thrown, the pellets cover a 10' by 10' area. Pellets come in packs of six.

Tear Gas This pellet is filled with a fine OC powder, that when broken, covers the entire blast radius in the irritant powder. Any target caught in the cloud of tear gas must make a Fortitude Saving Throw [TN14] or be Blinded and Stunned for 1 round. A gas mask renders the target immune to the effects, and a wet cloth held over the eyes, nose, and mouth provides a +2 to the Fortitude Saving Throw. It disperses after one round.

Explosive This pellet is filled with an explosive that immediately reacts when it hits air, giving off a small, but violent explosion. Any target caught in the blast must make a Fortitude Saving Throw [TN12] or be knocked Prone.

Fire This pellet is filled with a quick fireflash substance, that will ignite any flammable object within its blast radius, but won't do much more than that.

Cold This pellet, filled with compressed CO, is more useful for putting out quick fires than actually freezing anything, but will provide cold damage regardless.

Acid This pellet is filled with a concentrated acid used to burn quick holes in metal, wood, or plastic.

Smoke This pellet is filled with a clouding agent, that immediately makes a quick cover of smoke in the entire blast radius. The smoke obscures all sight, including ability granted by night vision goggles. Anyone within the area has total concealment (attacks suffer a 50% miss chance, and the attacker can't use sight to locate the target). It disperses after one round.

Sticky This pellet is filled with a thick, sticky mist that, when it hits air, immediately covers the ground in a sticky substance that makes the area harder to move through. Any creature moving through the terrain must make a successful Reflex Saving Throw [TN15] or be stuck to the terrain for that round. It disperses after one round.

Slippery This pellet is filled with a friction reduction mist that, when it hits the air, immediately covers the ground in a slippery substance that makes the area hard to move through. Any creature moving through the terrain must make a successful Reflex Saving Throw [TN15] or be knocked Prone. It disperses after one round.

Stun This pellet is filled with bright flash powder, used to disorient anyone caught in its blast. Any target caught in the blast must make a Will Saving Throw [TN14] or be Dazed for 1d3 rounds.

Weapon	Damage	Type	Rng	Size	Wt	Cost	Restr
Tear Gas	See text	—	10'	F	0.1	2	L
Explosive	1d6+1	Concussion	10'	F	0.1	3	M&P
Fire	1	Fire	10'	F	0.1	1	L
Cold	1	Cold	10'	F	0.1	2	L
Acid	1d2	Acid	10'	F	0.1	3	M&P
Smoke	See text	—	10'	F	0.1	1	None
Sticky	—	—	10'	F	0.1	1	None
Slippery	—	—	10'	F	0.1	1	None
Stun	—	—	10'	F	0.1	2	None

Table 77: Pellets

Grenades

Plasma A plasma grenade is the end result of a plasarm not shutting down and all of the failsafes failing to activate. This grenade is specifically built to have the tiny fusion core go critical and explode. The grenade, when activated and thrown, will immediately stick to whatever it is thrown to, and because of such, it is highly recommended that this grenade not be cooked off, instead ignited and immediately thrown at its intended target. Once a target is stuck, it cannot be unstuck. Attempting to stick a grenade to a creature is considered a ranged touch attack.

Plasma Pulser A plasma pulser is a small disc that, when thrown, creates an area of denial to anyone that steps in the area, or is in the area when the plasma pulser activates. Anyone that steps into the area immediately takes damage (no Reflex Saving Throw) for every 5' they move through the area. The plasma pulser has a duration of 1d4+1 rounds before it runs out of energy.

EMP This grenade was made to combat the more technological weapons that exist, to disable equipment without damaging it. When the grenade explodes, all technology that uses electricity, including plasarms, lasarms, and elarms, within the blast radius are immediately disabled until they can be repaired (Craft (Electronics) [TN20], Complex).

Acid This grenade is an evolution of a simple thrown beaker filled with acid, prepackaged and encapsulated in a sturdier case and shell, also making it easier to carry around. When thrown, it explodes like a normal grenade, throwing acid around the blast radius, covering whoever was hit with concentrated acid.

Cryo This grenade is a pressurized capsule of liquid nitrogen, that encapsulates a standard grenade fuse. When this grenade explodes, it flings the liquid nitrogen, freezing everything in its blast radius. Any creature caught in the blast must make a Fortitude Saving

Throw [TN16] or take 3d6 cold damage, with heavy clothing being able to modify the bonus/penalties as if the character were caught in the cold. Spaces where this grenade goes off is considered rough terrain for 1 round, and requires double the Combat Points to move across.

Shield This grenade, when thrown, generates a force field shield for 1d3+1 rounds, that protects against 40 points of plasma, ballistic, fire, and cold damage. When the shield takes 40 points of damage from any of these combined damages, it immediately disappears. This shield does not protect against acid, piercing, slashing, concussion, or bludgeoning damage. The shield does not also deny anyone the ability to step into the area nor does it protect any of the listed damages if the damage comes from within the shield: it only prevents anyone out of the shield from damaging someone on the inside of the shield with the listed damages.

Sonic A sonic grenade is a small ball with a keypad of six buttons, that when activated, creates a high pitched tone that irritates and confuses all those caught in its blast. When this grenade is activated, everyone caught in the blast radius must immediately make a Will Saving Throw [TN20] to avoid being stunned for 1d4 rounds. This grenade is reusable, if the character knows the password to deactivate it.

Digital This grenade is a retrofitted fragmentation grenade equipped with a digital timer that allows it to be set for a predetermined amount of time to go off from as short as 1 round after it is thrown up to 10 rounds. Any target caught in the blast must make a Fortitude Saving Throw [TN17] or be knocked Prone.

Taser A taser grenade is a weighted grenade that fires two loops of wire in a circle from it, that then sends out pulses of electricity to disable all those caught in its blast. All targets caught in the blast radius take 1d4 electricity damage and must make a Fortitude Saving Throw [TN14] or be Paralyzed for 1d6 rounds. A taser grenade may be created with a Craft (Mechanical) check [TN22].

Foam A foam grenade releases a blast of quick acting foam, that seals up and hardens once it hits open air. Any creature caught in the foam blast radius is immediately stuck in that square, and cannot move. The creature can spend 10 CP to make an Athletics check [TN20] or an Acrobatics [TN25] check to free themselves, gaining a +3 skill bonus on the check if they have a Small or smaller slashing melee weapon in their hands. The foam grenade also creates a foam barrier that takes 5 CP per square to break through with any slashing melee weapon.

Weapon	Damage	Type	Blast Radius	Wound Radius	Rng	Sz	Wt	Cost	Restr
Plasma	4d8	Plasma	15′	—	10′	T	0.5	5	M&P
Plasma Pulser	1d6	Plasma	15′	—	10′	T	0.8	7	M&P
EMP	See text	See text	30′	—	10′	T	0.6	6	R
Acid	8d6	Acid	15′	30′	10′	T	0.8	5	M&P
Cryo	See text	Cold	15′	30′	10′	T	0.6	8	M&P
Shield	See text	—	10′	—	10′	T	0.6	9	None
Sonic	See text	—	60′	—	10′	T	0.5	3	None
Digital	5d6	Slashing	15′	30′	10′	T	1.0	5	M&P
Taser	1d4	Electricity	10′	—	10′	T	1.5	5	R
Foam	See text	See text	10′	—	10′	S	0.9	1	None

Table 78: Grenades

Ammunition

Bolt and Arrowheads

Glass These heads are empty, allowing for poisons to be inserted that affect immediately when they impact their target. Only injected or ingested poisons may be used.

Taser These heads are capped with a taser unit that provides a stunning shock. On a successful hit, the head deals 1d3 electricity damage and the target must make a Fortitude Saving Throw [TN15] or be paralyzed for 1d6 rounds.

Explosive These heads are tipped with an impact explosive device, that explode when they contact their target. They grant +2 damage dice, and convert all damage to concussion damage.

Ultraviolet(UV) These heads give a sudden bright flash of ultraviolet light when it strikes its target, very useful when fighting creatures that are affected by ultraviolet light.

Silver Nitrate These heads house a glass vessel, that holds powdered silver nitrate, useful against any creatures that may have an aversion to silver. They grant +1 damage dice to any creature affected by silver.

Vaporizer These heads house a glass vessel with a small explosive, that allows for the vaporizing of any material. When it collides with a hard target such as the ground or a wall, it immediately explodes, creating a 10 ft burst radius cloud. This cloud has a duration of 1d3+1 rounds. Anyone caught in the cloud, or who steps into the cloud, immediately takes any effects the cloud has. Only inhaled poisons may be used.

Type	Cost
Glass	3 WP per 5
Taser	5 WP per 10
Explosive	1
UV	1 WP per 10
Silver Nitrate	1 WP per 5
Vaporizer	1 WP per 2

Table 79: Bolts and Arrowheads

Incinerator Unit Ammunition

Standard Fuel This is the standard fuel for a M240 Incinerator Unit. Attacks made while using this fuel do 3d6 Fire damage. Any creature caught in the line of flame can make a Reflex Saving Throw [TN15] to take half damage. Each canister holds 80 units of fuel.

Slow Burn Fuel This fuel burns at a much lower temperature, but is much harder to put out. Attacks made while using this fuel do 2d6 Fire damage. Any creature caught in the line of flame can make a Reflex Saving Throw [TN22] to take half damage. Each canister holds 45 units of fuel. A character attempting to put themselves out has a —4 penalty to their reflex save.

Sticky Fuel This fuel is a gelled mass, primarily used to destroy equipment, but can be used very well as area denial. Attacks made while using this fuel do 1d3 Fire damage. Any creature caught in the line of flame can make a Reflex Saving Throw [TN16] to take half damage. Every area that this attack covers continues to burn for 2d3 rounds, or until extinguished with a fire extinguisher, or other effects that can extinguish fire. Any character or equipment that moves through the burning area immediately threatens to be caught on fire. Each canister holds 45 units of fuel. A character attempting to put themselves out has a —6 penalty to their reflex save.

Fast Burn Fuel This fuel burns hot and fast, making it extremely dangerous, but due to it's quick burning nature, does not light objects on fire. Attacks made while using this fuel do 5d6 Fire damage. Any creature caught in the line of flame can make a Reflex Saving Throw [TN16] to take half damage. Each canister holds 30 units of fuel. This fuel will not set a character or object on fire.

Cryo Fuel This fuel burns not through fire, but chemically through cold, using liquid nitrogen with other additives. Attacks made while using this fuel do 3d6 cold damage. Any creature caught in the line of cold can make a Reflex Saving Throw [TN13] to take half damage. Each canister holds 30 units of fuel. This fuel will also immediately extinguish any fires within it's area of effect.

Ammunition	Cost	Weight
Standard Fuel	1	6.0
Slow Burn Fuel	2	6.0
Sticky Fuel	3	6.0
Fast Burn Fuel	2	6.0
Cryo Fuel	1	6.0

Table 80: Incenerator Unit Fuels

Caseless Ammunition Types

Caseless ammunition doesn't use a metal or plastic case to hold all of the components of the ammunition together, instead having the propellant pressed around it with the projectile in the center of the pressed block. Caseless ammunition must be pre-purchased in magazines, and the type indicated has a full magazine.

Ammunition	Cost
FMJ	+0 WP
JHP; Frangible; Tracer	+1 WP
AP	+2 WP
Match Grade	+4 WP

Table 81: Caseless Ammunition Types

Railgun Ammunition

These are the projectiles for the railgun.

Ammunition	Cost
Railgun Slugs	5 WP per 20

Table 82: Railgun Ammunition

Cased Ammunition Types

Cold This ammunition is a small, thin copper jacket with a liquid nitrogen center. It provides –1 damage die and +1 cold damage die. After the target is hit with this ammunition, they lose 1d4 Combat Points for 1 round. This effect does not stack.

Acid This ammunition is a small, thin copper jacket with a tiny glass liner and an acid center. It provides –1 damage die and +1 acid damage die. After the target is hit with this ammunition, they take +1 acid damage die every round for 2 rounds.

Electric This ammunition is a miniature taser round, with a high capacity capacitor designed to kill, not stun. It converts all damage to electric and provides a +10% Error Range.

Gel This ammunition consists of a solidified gel bullet used for non-lethal takedowns when the user still wants the ability to take down a target lethally without changing ammunition, albeit with less power than a normal round. When aimed center mass, or at the arms or hand or legs or feet, this ammunition provides +1 damage die and all damage is converted to non-lethal ballistic damage. When aimed at the head, the damage is lethal and does not provide any additional damage die. For the purposes of armor, this ammunition is considered ballistic and bludgeoning and is stopped by both types of armor. This ammunition only deals damage within the first range increment.

Ultraviolet (UV) This ammunition gives a sudden bright flash of ultraviolet light when it strikes its target, very useful when fighting creatures that are affected by ultraviolet light. This is considered a sliver of light to those affected. This ammunition provides –1 damage die and a +5% Error Range.

Silver Nitrate This ammunition is a silver jacketed bullet that holds powdered silver nitrate, used against any creatures that may have an aversion to silver. This ammunition provides –1 damage die and a +5% Error Range.

Type	Cost	#/box	Restr
Rimfire			
Gel	1	200	None
Light Rimless Handgun			
Gel	1	25	None
Intermediate Rimless Handgun			
Cold	1	25	R
Acid	1	25	R
Electric	1	25	R
Gel	1	25	None
Ultraviolet	1	25	None
Silver Nitrate	1	25	None
Heavy Rimless Handgun			
Cold	1	20	R
Acid	1	20	R
Electric	1	20	R
Gel	1	25	None
Ultraviolet	1	20	None
Silver Nitrate	1	20	None
Light Rimmed Handgun			
Cold	1	30	R
Acid	1	30	R
Electric	1	30	R
Gel	1	25	None
Ultraviolet	1	25	None
Silver Nitrate	1	25	None
Heavy Rimmed Handgun			
Cold	1	20	R
Acid	1	20	R
Electric	1	20	R
Gel	1	25	None
Ultraviolet	1	25	None
Silver Nitrate	1	25	None
Light Rifle			
Cold	1	15	R
Acid	1	15	R
Electric	1	15	R
Gel	1	20	None
Ultraviolet	1	15	None
Silver Nitrate	1	15	None
Intermediate Rifle			
Cold	1	15	R
Acid	1	15	R
Electric	1	15	R
Gel	1	20	None
Ultraviolet	1	10	None
Silver Nitrate	1	10	None
Heavy Rifle			
Cold	1	20	R
Acid	1	20	R
Electric	1	20	R
Gel	1	25	None
Ultraviolet	1	10	None
Silver Nitrate	1	10	None
Super Heavy Rifle			
Cold	1	10	R
Acid	1	10	R
Electric	1	10	R
Ultraviolet	1	5	None
Silver Nitrate	1	5	None

Grenade Ammunition Types

Razor Wire This grenade is a portable, launchable version of the razorpuck, firing strings of microwire at a singular target. This grenade must be used against a specific target and does not incur the bludgeoning damage or attack penalty when firing a grenade at a target.

Plasma A plasma grenade is the end result of a plasarm not shutting down and all of the fail safes failing to activate. This grenade is specifically built to have the tiny fusion core go critical and explode. When fired, it will immediately stick to whatever it is fired at. Once a target is stuck it cannot be unstuck.

EMP This grenade was made to combat the more technological weapons that exist and to disable equipment without damaging it. When released, all technology that uses electricity, including including plasarms, lasarms, and elarms, are immediately disabled until they can be repaired (Craft (Electronics) [TN20], Complex).

Acid This grenade is an evolution of a simple thrown beaker filled with acid, prepackaged and encapsulated in a sturdier case and shell making it easier to carry around and use. Spaces where this grenade goes off is considered dangerous for 1d3+1 rounds and anyone who steps in the terrain takes the grenade's damage per square they move in.

Cryo This grenade is a pressurized capsule of liquid nitrogen fit into a launchable grenade. When this grenade explodes, it flings the liquid nitrogen, freezing everything in its blast radius. Any creature caught in the blast must make a Fortitude Saving Throw [TN16] or take 3d6 cold damage with heavy clothing being able to modify the bonus/penalties as if the character were caught in the cold. Spaces where this grenade goes off is considered rough terrain for 1 round and requires double the Combat Points to move across.

Shield This grenade generates a force field shield for 1d3+1 rounds, that protects against 40 points of plasma, ballistic, fire, and cold damage wherever it lands. When the shield takes 40 points of damage from any of these combined damages it immediately disappears. This shield does not protect against acid, piercing, slashing, concussion, or bludgeoning damage. The shield does not also deny anyone the ability to step into the area nor does it protect any of the listed damages if the damage starts within the shield: it only prevents anyone out of the shield from damaging someone on the inside of the shield with the listed damages.

Sonic A sonic grenade is a small ball with a keypad of six buttons, that when activated creates a high pitched tone that irritates and confuses all those caught in its blast. Anyone affected must immediately make a Will Saving Throw [TN20] to avoid being Stunned for 1d4 rounds.

Weapon	Dam	Type	Blast Radius	Wound Radius	Rng	S	Wt	Co	Restr
Razor Wire	4d12	Slashing	—	—	25'	T	1.0	2	R
Plasma	4d8	Plasma	15'	—	—	T	1.0	10	M&P
EMP	See text	See text	25'	—	—	T	1.0	8	M&P
Acid	8d6	Acid	15'	30'	—	T	0.8	6	M&P
Cryo	See text	Cold	15'	30'	—	T	1.0	8	M&P
Shield	See text	—	10'	—	—	T	0.6	10	L
Sonic	See text	See text	35'	—	—	T	0.5	2	R

Table 83: Grenade Ammunition

Weapon Upgrades

Melee Weapon Upgrades

Vibro (Contact) This upgrade refits the contact of the weapon with a vibrator that is used to agitate whatever the contact touches making slashing weapons much more dangerous. This upgrade adds a single damage die to the weapon's damage.

Electrified (Contact) This upgrade refits the contact of the weapon with electrical contact, that cause a painful electric shock to whatever the contact touches. This upgrade adds a single damage die of electricity damage to the weapon's damage.

Upgrade	Available for	Loc	Cost	Time	Wt	Restr
Vibro	Any Slashing Weapon	C	25%	3 days	0.5	None
Electrified	Any Weapon	C	10%	2 days	0.1	None

Table 84: Melee Weapon Upgrade

Ranged Weapon Upgrades

Plasarms and Upgrades

Emitter The emitter can be modified to produce different effects and grant different types of attacks. Only plasarms, lasarms, and elarms have emitters, and can accept emitter upgrades. A plasarm can have no more than three emitter upgrades at one time, and a lasarm and an elarm can have no more than two emitter upgrades at one time.

Frame A plasarm can have up to six frame upgrades, a lasarm can have up to four frame upgrades, and an elarm can have up to three frame upgrades.

Ergonomics and Aesthetic Upgrades

Shaped Emitter (None) This upgrade changes all blasts that are fired from the plasarm's emitter from a simple shapeless blob of plasma into a shaped blast, such as a square, triangle, skull outline, or any simple shape the user would like. This is purely an aesthetic change and does not affect any attack types, damages, or other functions of the plasarm, and does not take up any emitter slots. Only plasarms may take this upgrade.

Colored Emitter (None) This upgrade changes all blasts that are fired from the plasarm's emitter to any color. The user may select any color possible by entering the RGB values, and can even alternate it based on things such as time, any interfaced value (current CHP for example), or even have the color be selected at random. This is purely an aesthetic change and does not affect any attack types, damages, or other functions of the plasarm, and does not take up any emitter slots. Only plasarms may take this upgrade.

Ruggedization (Frame) This upgrade replaces the plasarm's outer shell with a sturdy metal shell with a central spine, that increases the weight by 1.5×, and grants the plasarm the ability to use the pistol whip attack without damage. Only plasarms, lasarms and elarms may take this upgrade.

Firing Mode Upgrades

Power Conserve Emitter (Emitter) This upgrade grants the built-in emitter on a plasarm the ability to fire low power semi-automatic plasma shots. When performing a single shot or potshot attack with the plasarm, the Heat cost is reduced by 1, but the attack is made with –1 damage die. Only plasarms that have an emitter with more than 25 kW wattage may take this upgrade.

Charge Emitter (Emitter) This upgrade grants the built-in emitter on a plasarm the ability to charge shots as well as upgrades the surrounding coverage to sustain the increased heat due to charging. This upgrade grants the ability to perform chargeshot attacks. Only plasarms may take this upgrade. You can also use this upgrade to remove the emitter from a plasarm.

Wave Emitter (Emitter) This upgrade grants the built-in emitter on a plasarm the ability to fire in a constant stream pattern, granting the plasarm the ability to perform waveshot attacks. Only plasarms may take this upgrade. You can also use this upgrade to remove the emitter from a plasarm, reducing its restriction rating down to the highest restriction rating it has, due to emitters.

Bounce Emitter (Emitter) This upgrade grants the built-in emitter on a plasarm the ability to fire bounce shots, which are shots that have been wrapped in a thin force field, allowing them to bounce off an object and continue on. This grants the plasarm the ability to perform bounceshot attacks. Only plasarms may take this upgrade. You can also use this upgrade to remove the emitter from a plasarm.

Grid Emitter (Emitter) This upgrade grants the built-in emitter on a plasarm or lasarm the ability to fire shots off in a rapid grid, covering an area in inaccurate but powerful plasma or laser fire. This grants the ability to perform gridfire attacks. You can also use this upgrade to remove the emitter from a plasarm or lasarm, reducing its restriction rating down to the highest restriction rating it has, due to emitters.

Stun Emitter (Emitter) This upgrade grants the built-in emitter on a plasarm the ability to fire weakened plasma bolts that stun, rather than kill. When this mode is used, the damage is converted to non-lethal plasma damage and the weapon's wattage is halved, rounding up to the nearest category. When using this mode the plasarm may only perform single shot or potshot attacks. Only plasarms may take this upgrade. You can also use this upgrade to remove the emitter from a plasarm.

Extended Range Emitter (Emitter) This upgrade extends the range of the built-in emitter of a plasarm, but causes the emitter to use more Heat as a downside. When using this mode, the range of a single shot attack or potshot attack is doubled, but the shot has four times the Heat cost. Only plasarms may take this upgrade. You can also use this upgrade to remove the emitter from a plasarm.

Pulse Emitter (Emitter) This upgrade grants the-built in emitter on the plasarm or lasarm the ability to fire shots in a quick, automatic succession. This grants the plasarm or lasarm the ability to perform pulsefire attacks. You can also use this upgrade to remove the emitter from a plasarm or lasarm, reducing its restriction rating down to the highest restriction rating it has, due to emitters.

Focus Emitter (Emitter) This upgrade grants the built-in emitter on the lasarm the ability to be held on a singular target, burning a hole via maintained heat. This grants the lasarm the ability to perform focusshot attacks. You can also use this upgrade to remove the emitter from a lasarm, reducing its restriction rating down to the highest restriction rating it has, due to emitters.

Scour Emitter (Emitter) This upgrade grants the built-in emitter of the lasarm the ability to fan its lasers out, creating a searing fan of energy for a short period of time. This grants the lasarm the ability to perform scourshot attacks. You can also use this upgrade to remove the emitter from a lasarm.

Fan Emitter (Emitter) This upgrade grants the built-in emitter of the elarm the ability to fire off its electricity in a wide arc. Shots that use the fan emitter have half the range, but fire in a cone instead of a straight line. This emitter follows all the same rules as the standard elarm emitter. Only elarms may take this upgrade. You can also use this upgrade to remove the emitter from an elarm.

Ball Emitter (Emitter) This upgrade grants the built-in emitter of the elarm the ability to fire off electricity in a singular ball. When using this emitter, the elarm's range is turned into a range increment, and the character must make ranged attack rolls when using this attack. Only elarms may take this upgrade. You can also use this upgrade to remove the emitter from an elarm.

EMP Emitter (Emitter) This upgrade grants the built-in emitter of the elarm the ability to disrupt electrical components. When using this emitter, the elarm's damage is reduced by 1 damage dice, but any successful attack disrupts any electrical components that are susceptible to EMP. Only elarms may take this upgrade. You can also use this upgrade to remove the emitter from an elarm.

UV Emitter (Emitter) This upgrade allows the lasarm to perform all of its attacks in the ultraviolet spectrum. Any creature that is not affected by UV takes no damage from the attack when using this emitter. Only lasarms may take this upgrade.

Infrared Emitter (Emitter) This upgrade allows the lasarm to perform all of its attacks in the Infrared spectrum. When using this emitter, all damage is both Plasma and Fire damage, and any Damage Reduction that reduces either of these damages also stops infrared attacks. Any successful attack against a target using this emitter risks catching fire. When using an infrared emitter, a lasarm's heat generation is doubled for all attacks. Only lasarms may take this upgrade.

X-Ray Emitter (Emitter) This upgrade allows the lasarm to perform all of its attacks in the X-Ray spectrum. When using this emitter, the user can attack opponents behind otherwise impenetrable terrain. When attacking a target with less than total cover, treat their cover (but not their concealment from cover) as being one degree less than it is. Nine-tenths cover becomes three-fourths cover, three-fourths becomes one-half, one-half becomes one-fourth, and one-fourth cover provides no cover at all. When using an x-ray emitter, a lasarm's heat cost is tripled for all attacks. Only Lasarms may take this upgrade.

Gamma Ray Emitter (Emitter) Considered a dangerous and indiscriminate weapon, a Gamma Ray Emitter allows the lasarm to perform all of its attacks in the gamma ray spectrum. When firing a lasarm with a Gamma Ray Emitter, all living characters in a cone in front of the weapon are fatigued for 1 round and gains 1 bleed dice. The length of the cone is equal to half the weapon's range increment rounded down, unmodified by feats or optics. A living creature struck and damaged by a lasarm using this emitter suffers the previous effects, and takes bleed damage as if the lasarm were a firearm. Characters with armor that protects against plasma damage prevents bleed damage. When using a gamma ray emitter, a lasarm's heat generation is quadrupled for all attacks. Only Lasarms may take this upgrade.

Internal Upgrades

Reactive Radiator (Frame) This upgrade improves the internal radiator for plasarms, lasarms, and elarms, increasing its Heat by 25% per upgrade. This upgrade can be placed twice in a single plasarm, lasarm, or elarm.

Lockout Sensor (Frame) This upgrade adds in electronics that will lock out any unauthorized user from using the firearm, plasarm, lasarm, or elarm if picked up. If the weapon is picked up by an unauthorized user, they are unable to fire the weapon, but they can unload it. The authorized user can program up to three additional users that are authorized to use the firearm. Only firearms, plasarm, lasarm, or elarm may take this upgrade.

Coolant Flush (Frame) This upgrade fits a second coolant pack that functions as an emergency coolant dump. When the user presses a button (for 1 CP), this coolant pack is ruptured by this upgrade, the freezing cold liquid nitrogen funneled into the core parts, immediately cooling the gun down. When this upgrade is used, all Heat on the plasarm, lasarm, or elarm is removed immediately. This function, however, destroys the coolant pack in the process, making it unable to be reused. Only plasarms, lasarms, or elarms may use this upgrade.

Reserve Packs (Frame) This upgrade allows the storage of an additional coolant pack within the weapon. When the first pack reaches its maximum heat intake, this upgrade automatically ejects the hot coolant pack, and routes heat to a reserve pack. Reserve packs must be exchanged just like all other coolant packs, and this upgrade does not come with any coolant packs. This upgrade can be taken four times, each upgrade granting space for an additional pack.

Tactical Upgrades

Glow Emitter (Tactical/Emitter) This upgrade is a small plasma light that when turned on, glows the same color as the emitter of the plasarm illuminating a 15' radius from the emitter. It also comes in a tactical form that can be mounted on tactical upgrade mounts. If bought in tactical form, a color must be specified.

Arc Emitter (Emitter) This upgrade grants a plasarm or elarm the ability to create a small length of plasma or electricity that arcs from the emitter, functioning as a rifle bayonet for the purpose of feats. The plasarm or elarm may be used as a melee weapon with damage equal to its normal attack damage. The size rating of the plasarm does not change while it is being used as a melee weapon, and it incurs any bonuses or penalties when being used as such. The plasarm or elarm uses 1 Heat per attack. Heavy attacks cost 1 additional heat, and full attacks cost 2 additional heat.

Ammunition Readout (Frame) This upgrade shows the remaining ammunition in a firearm or the remaining Heat in a plasarm, lasarm, or elarm on a small, easy to read screen.

Upgrade	Available for	Location	Cost	Time	Wt	Restr
Shaped Emitter	Any Plasarm	Emitter	5	1 hour	—	None
Colored Emitter	Any Plasarm	Emitter	6	1 hour	—	None
UV Emitter	Any Lasarm	Emitter	3	1 Hour	—	None
Power Conserve	Any Small or larger Plasarm	Emitter	5	1 hour	—	L
Ruggedization	Any Plasarm, Lasarm, or Elarm	Frame	15	8 hours	*	None
Charge Emitter	Any Plasarm	Emitter	6	1 hour	—	L
Wave Emitter	Any Small or larger Plasarm	Emitter	8	1 hour	—	M&P
Bounce Emitter	Any Plasarm	Emitter	10	1 hour	—	L
Grid Emitter	Any Small or larger Plasarm or Lasarm	Emitter	12	1 hour	—	M&P
Stun Emitter	Any Plasarm	Emitter	4	1 hour	—	L
Extended Range	Any Small or larger Plasarm	Emitter	15	1 hour	—	L
Pulse Emitter	Any Plasarm or Lasarm	Emitter	10	1 hour	—	R
Focus Emitter	Any Small or larger Lasarm	Emitter	12	1 hour	—	M&P
Scour Emitter	Any Small or larger Lasarm	Emitter	15	1 hour	—	M&P
Fan Emitter	Any Elarm	Emitter	14	1 hour	—	L
Ball Emitter	Any Elarm	Emitter	19	1 hour	—	L
EMP Emitter	Any Elarm	Emitter	26	1 hour	—	R
Reactive Radiator	Any Plasarm or Lasarm	Frame	22	4 hours	—	None
Glow Emitter	Any Ranged Weapon	Tactical Emitter	16 2	5 minutes 1 minute	—	None
Arc Emitter	Any Small or larger Plasarm or Elarm	Emitter	18	1 hour	—	None
Infrared Emitter	Any Lasarm	Emitter	10	1 hour	—	R
X-ray Emitter	Any Lasarm	Emitter	20	1 hour	—	M&P
Gamma Ray Emitter	Any Lasarm	Emitter	40	1 hour	—	I
Coolant Flush	Any Plasarm, Lasarm, or Elarm	Frame	14	3 hours	1.0	None
Reserve Packs	Any Plasarm, Lasarm, or Elarm	Frame	20	2 hours	1.5	None
Ammo Readout	Any Ranged Weapon	Frame	12	1 hour	0.8	None
Lockout Sensor	Any Firearm, Plasarm, Lasarm, or Elarm	Frame	20	1 day	—	None

Table 85: Ranged Weapon Upgrade

New Vehicle Upgrades

A vehicle can be upgraded with various upgrades to make them faster, more resilient to attacks, or mount weapons. Vehicles can be upgraded in a number of slots:

- **Body** The frame, the plating, and any other superficial equipment such as the lighting, windshields, paint job, and interior.
- **Wheels** The tires, rims, and the brakes of a vehicle.
- **Powertrain** The engine and any auxiliary equipment hooked up to it, such as a turbocharger.
- **Drivetrain** The transmission and the suspension.

Unless otherwise noted, a vehicle can have as many upgrades of each type as the owner can afford.

Light Shield Kit (Body)

This upgrade fits the vehicle with a light plasma shield, that protects against all plasma and electric damage. It allows the vehicle and all those inside to ignore up to 6 points of plasma and electric damage. Only cars, trucks, SUVs, vans and military and police vehicles may take this upgrade. This upgrade may only be taken twice.

Heavy Shield Kit (Body)

This upgrade fits the vehicle with a heavy plasma shield, that protects against all plasma and electric damage. It allows the vehicle and all those inside to ignore up to 15 points of plasma and electric damage. Only cars, trucks, SUVs, vans and military and police vehicles may take this upgrade. This upgrade may only be taken twice.

Grav Propulsion (Wheel)

This upgrade changes the standard wheels to anti-gravity generators that cause the vehicle to hover in the air. All terrain effects can be ignored, but the vehicle loses the ability to Hard Brake.

Grav Wheels (Wheel)

This upgrade changes the standard wheels to dual selector anti-gravity generators that cause the vehicle to hover in the air, or change back to standard wheels to drive on terrain. It takes 3 rounds for a vehicle to change from one mode to the other. When in grav mode, all terrain effects can be ignored, but the vehicle loses the ability to Hard Brake. When in terrain mode, the vehicle functions as normal. This upgrade can also have its tires and wheels changed as if it had normal wheels.

Upgrade	Time	Capital Cost
Light Shield Kit	1 day	3
Heavy Shield Kit	2 days	5
Grav Propulsion	1 day	7
Grav Wheels	1 day	11

Table 86: Equipment, Vehicle Upgrades

Chapter V

Combat Actions

Action	CP Cost
Ranged Attack Actions	
Plasarm/Lasarm/Elarm, Single Shot, Diminutive to Small	6
Plasarm/Lasarm/Elarm, Single Shot, Medium to Large	7
Chargeshot	4+(2xlevel)
Waveshot; Bounceshot	6
Gridshot	5
Pulseshot; Scourshot; Focusshot	4
Throw plasma blade	5
Move Actions	
Draw a plasma blade	6
Activate a plasma blade	0
Reload a plasarm, lasarm, elarm, or plasma blade	4

Action	AoO
Draw a plasma blade	No
Activate a plasma blade	No
Reload a plasma blade	Yes
Throw plasma blade	Yes

Table 87: Combat Actions

Attack Actions

Plasarm and Lasarm Attacks

The most basic form of attack with a plasarm, lasarm or elarm is a single shot. One attack is one pull of the trigger and fires one bolt of plasma, laser beam, or bolt of electricity at one target. The Personal Plasmas Proficiency feat allows a character to make this sort of attack without penalty for plasarms or lasarms. If a character isn't proficient in personal plasarms, they take a –4 penalty on attacks with that type of weapon. As with all forms of ranged weapons, attacking with a plasarm or lasarm while within a threatened square provokes an AoO. The cost for single firing a plasarm is based on the size of the plasarm or lasarm. A single shot uses 1 unit of Heat per shot.

Chargeshot

A chargeshot is when a plasarm's emitter charges its shot by keeping its containment field up before it releases its shot, allowing the plasma to build before firing. If the plasarm or lasarm has a charge emitter, it may be used to perform a chargeshot attack. The character targets a specific creature and makes an attack roll. If the attack is successful, the character gains extra damage dice based on the amount of time the character charged the plasarm. Charging the plasarm costs 2 Combat Points per charge level, and the character gains 1 additional damage die per charge level. The dice are always the same type as used in the original damage. Using this attack uses 1 unit of Heat plus 1 unit of Heat per charge level and can only be done if the weapon has enough Heat to support the attack. If the character does not have enough Heat, the plasarm will perform the attack to the best of its ability and immediately shut down. If a character attempts to use more than 50% of a plasarm's total Heat for a single charged attack, the plasarm becomes damaged immediately, does not fire, and immediately requires electrical repairs (Complex, TN25) in order to function once again.

Waveshot

A waveshot is when a plasarm's emitter fires one long stream of plasma at a specific area. If a plasarm has a wave emitter, it may be used to perform a waveshot attack. Waveshot affects an area, and everything in it, not a specific creature. The character first chooses the length of their waveshot. The character then selects a direction they wish to fire. This length is restricted to two range increments. When they fire, the waveshot fills a 5' wide area in the direction they selected, with the length of the waveshot being the chosen length. There is no attack roll. Every creature within the affected area must make a Reflex Saving Throw [TN9]. If they succeed, they take half of the weapon's damage. A waveshot uses 3 units of Heat per 5' in length the waveshot fires, and can only be done if the weapon has enough Heat to support the attack. If the character does not have enough Heat, the plasarm will perform the attack to the best of its ability and immediately shut down.

Gridshot

A gridshot is a burst of loosely controlled plasma or a grid of lasers, fired at a specific area. If a plasarm or lasarm has a grid emitter, it may be used to perform a gridshot attack. Gridshot attacks affects an area and everyone in it, not a specific creature. The character targets a 10'-by-10' area and makes an attack roll with a –6 penalty; the targeted area has an effective DEF of 10. If the attack succeeds, every creature within the affected area must make a Reflex Saving Throw [TN18]. If they succeed, they take half of the weapon's damage. A gridshot uses 8 units of Heat, and can only be done if the weapon has enough Heat to support the attack. Gridshot can not perform called shot attacks.

Bounceshot

A bounceshot is using the surrounding area to bounce a shot off a wall, tree, structure, or other solid structure to shoot around corners, or hit enemies that would be otherwise out of reach. If a plasarm has a bounce emitter, it may be used to bounceshot. A character targets a square with a wall, a structure, or any non organic Huge or larger object with at least 2 points of HP, and fires. The character then guides the shot as if they were standing in that targeted square, facing the same direction the shot originally came from, and and targets a single creature and makes an attack roll with a –6 penalty, using that new location, using any bonus or penalties that may be removed or added due to the new location. If the attack is successful, the character may roll the standard damage. A bounceshot uses 4 units of Heat, and can only be done if the weapon has enough Heat to support the attack. Bounceshot can not perform called shot attacks.

Pulseshot

A pulseshot is burst of rapid plasma bolts fired at a specific target. If a plasarm or lasarm has a pulse emitter, it may be used to perform a pulseshot attack. The character targets a specific creature and makes an attack roll with a –6 penalty. If the attack succeeds, the character may roll their damage with 2 extra damage dice plus +1 damage per 10 kW rating the plasma has. The dice are always the same type as used in the original damage. A pulseshot uses 5 units of Heat, and can only be done if the weapon has enough Heat to support the attack. Pulseshot can not perform called shot attacks.

Scourshot

A scourshot is a sudden fan of lasers that cover an area directly in front of the lasarm, fanning out and striking all those within range. If a lasarm has a scour emitter, it may be used to perform a scourshot attack. The character declares what direction they're going to fire their scourshot attack. All creatures within a 15' cone are immediately hit, and the character may roll their damage. A scourshot uses 15 units of Heat and can only be done if the weapon has enough Heat to support the attack. Scourshot can not perform called shot attacks.

Focusshot

A focusshot is sustained laser burn that is fired and held at a specific target. If a lasarm has a focus emitter, it may be used to perform a focusshot attack. The character targets a specific creature and makes an attack roll with a -6 penalty. If the attack succeeds, the character may roll their damage. The character may spend 5 Combat Points to continue to hold down the trigger of the lasarm and hold the lasarm on the target. If they do, they may roll the lasarm's damage again, and add it to the original damage. The dice are always the same type as used in the original damage. A focusshot uses 9 units of Heat, and can only be done if the weapon has enough Heat to support the attack.

Plasma Blade

Drawing a Plasma Blade

A plasma blade may be drawn from a sheath or belt clip, readying it for use.

Activating a Plasma Blade

This is the action of actually turning on the plasma blade by flicking a toggle switch, pressing a button, or entering a code or fingerprint to activate the plasma blade.

Reaction

A reaction is an action where a character prepares for an oncoming attack. The character declares which reaction they will prepare then ends their turn. If any character triggers the conditions that the reaction has set, they roll a Saving Throw that corresponds with the action. The TN is Opposing Attack Roll – 5.

Deflect Deflecting is a reaction where a character uses a plasma blade or psiblade to deflect plasarm fire, cased ammunition fire, thrown weapons, non-ballistic ranged weapon attacks, and shelled slug fire away from themselves. On a successful Reflex Saving Throw, any single shot or chargeshot plasarm attack, any single shot cased firearm or shelled slug firearm attack, any non-ballistic ranged weapon attack, or any thrown weapon attack, is deflected harmlessly in a random direction, that does not collide with any other creatures. A character can only attempt to deflect single shots, or chargeshot attacks. The character does not have to be the target, but they must be within the line of fire, and they must be facing the incoming fire in order to deflect the attack. A character can choose which attack they attempt to deflect, but can only attempt to deflect once per round.

Chapter VI

Sub-Atmospheric and Deep Space Vehicles

Spacecraft in Combat

''Once you fire this husk of metal, it keeps going till it hits something. That can be a ship, or the planet behind that ship. It might go off into deep space and hit somebody else in ten thousand years. If you pull the trigger on this, you're ruining someone's day, somewhere and sometime. That is why you check your damn targets! That is why you wait for the computer to give you a damn firing solution! That is why we do not "eyeball it!" This is a weapon of mass destruction. You are not a cowboy shooting from the hip!'' ~ Found in a Textbook for Space Captain Officers

Combat between Spacecraft operates similarly to combat between characters. Time is separated into rounds where different spacecraft spend Combat Points to perform actions on their turns, which are ordered by initiative.

Spacecraft Statistics

Defense (DEF) The Defense score of a spacecraft. This score determines how hard it is to hit a spacecraft with attacks. When making an attack roll, the result must exceed this number to hit.

Hull Points (HP) A spacecraft's HP is a representation of it's combat readiness. A spacecraft with 0 HP is disabled. A spacecraft with negative HP equal to 300% of it's Maximum HP is destroyed.

Hull Hardness (HRD) The toughness of a spacecraft's hull. Subtract this number from any damage received.

Usable Energy (UEG) Energy is a consumable resource produced each round by the spacecraft's Power Core. Energy has a maximum value equal to the the spacecraft's PWR. Spacecraft components that are actively used in combat, like weapons, will use UEG.

Energy Regeneration (RGN) Energy Regeneration is how much energy the spacecraft gains per turn. RGN is equal to the spacecraft's (PWR - DRN).

Power Production (PWR) Power is a static value representing the maximum power output of a space craft. It's determined by the rating of the spacecraft's power core. If a spacecraft has more than one power core, add their PWR together.

Power Drain (DRN) Power Drain is how much power is used from the spacecraft's PWR. A spacecraft with DRN equal to it's power is Drained. Spacecraft components that provide passive bonuses to a spacecraft's statistics, like Engines, will add DRN.

Body Points (BP) Body Points represent how much space there is to install components and upgrades on a spacecraft's hull.

Movement Score (MOV) A spacecraft's movement score determines how many Combat Points it needs to move. It's base value is determined by the size of a spacecraft's hull. This value is then adjusted based on the rating of a spacecraft's engines.

Spacecraft Scale

Combat between spacecraft takes place on a different scale from combat between characters. While spacecraft are described as 'small' or 'medium', a medium spacecraft dwarfs a medium creature many times over. Moving combat to spacecraft scale involves changes not only in size, but in time as well. Each combat round in spacecraft scale lasts one minute. Because of these differences, direct confrontation between characters and spacecraft should be rare, if it happens at all. When calculating the damage dealt by a spacecraft to a target at individual scale, multiply it by 10. When calculating damage dealt to a spacecraft by a weapon at individual scale, the damage is divided by 5 and Hull Hardness (HRD) is increased by 30.

Spacecraft Sizes

Creature and Vehicle Size	Item Size	Spacecraft Size	Absolute Size
—	Fine	Insignificant	1
—	Diminutive	Insignificant	2
Fine	Tiny	Insignificant	3
Diminutive	Small	Insignificant	4
Tiny	Medium	Insignificant	5
Small	Large	Insignificant	6
Medium	Huge	Insignificant	7
Large	Gargantuan	Insignificant	8
Huge	Colossal	Fine	9
Gargantuan	—	Diminutive	10
Colossal	—	Tiny	11
—	—	Small	12
—	—	Medium	13
—	—	Large	14
—	—	Huge	15
—	—	Gargantuan	16
—	—	Colossal	17

Table 88: Size Categories

Measuring Distance

Like standard combat in Ops and Tactics, Spacecraft combat takes place on a two-dimensional grid. Unlike combat at individual scales, the squares of the grid don't represent a concrete distance (i.e 5'), instead, they represent a collection of relative changes in position and velocity. In mathematical terms, these changes are called Deltas, and that term is borrowed here to represent distance. The Δ symbol will be used as a shorthand for this term. Larger spacrcraft can take up multiple squares on a grid. When measuring distance to or from such a spacecraft, always measure from the square that is closest to the other object or square.

Spacecraft Checks

Many spacecraft related actions have associated skill checks. In most cases, it's not the craft itself that makes a skill check, but instead a character on the craft. When a spacecraft performs an action that calls for a skill check, decide whether the check will be performed by an Officer or Crew. If the check is performed by an officer, that character rolls the skill check as normal. If the check is to be performed by crew, then roll **3d6 + Crew Modifier** and compare it against the TN.

Officers

An officer is any Character (Player or Non-player) on a spacecraft that has both statistics and will perform Actions during the spacecraft's turn. When a spacecraft performs an action, the character that actually makes any required Skill Checks or Attack rolls is the officer performing the Role associated with that action. If no officers are choosing to perform that role, then the action is performed using the spacecraft's crew modifiers instead.

Crew

Crew refers to NPCs working aboard the spacecraft. Crew do not have their own statistics, and make all of their rolls using the modifiers given in the Crew Modifiers table.

Crew Modifiers

Rather than force the GM to create, or remember, statistics for everyone aboard a spacecraft, spacecraft statistics include a general "crew quality" descriptor. The following table shows the five levels of crew quality for spacecraft crews, along with the appropriate check modifiers. Use the check modifier for all skill checks related to the operation of the spacecraft (including Pilot and Craft (Mechanical, Electrical or Structural) checks). Use the attack bonus for all attack rolls performed by the crew.

Quality	Skill	Attack
Untrained	-4	-2
Normal	+8	+2
Skilled	+12	+4
Expert	+16	+6
Ace	+24	+10

Table 89: Crew Quality

Spacecraft Roles

Spacecraft are large and complex machines, often requiring many people to operate at their peak. While some spacecraft may only require one person to take the controls in combat, the sorts of multitalented combat pilots that also excel at everything else required to use and maintain a spacecraft are rare. As spacecraft increase in size, their complexity increase as well. Operating one with only a handful of people eventually becomes impossible. As such, it becomes necessary to split up tasks among a spacecraft's officers and delegate other tasks to it's crew.

Role Limits

There's a limit to how many roles an officer can fill at once and remain capable, or even competent. If an officer wants to take multiple roles in a turn, they choose one role as their primary, and can perform the actions of that role at no penalty. Performing actions of non-primary roles takes a -8 penalty.

Basic Roles

Nearly all the actions a spacecraft can perform are associated with one or more of the following basic roles.

Gunner

A Gunner directs and targets a spacecrafts' weapons in combat. While acting as a gunner, an officer can control one weapon or battery of weapons, making attacks and directing point defense. If a gunner needs to direct multiple weapons or batteries, they take a -2 penalty on attack rolls for each weapon or battery beyond the first, thus if a spacecraft has many different weapons then it is advantageous to have multiple gunners, or else delegate other batteries to crew. Guided weapons like missiles or torpedoes don't count for this penalty, as their targeting is handled by the projectile's own guidance system. As Gunners normally aren't required to make skill checks, the only relevant statistic is their attack bonus.

Helmsman

The Helmsman is responsible for directing a spacecraft's flight path, including when and how to apply engine boosts and evasive maneuvers. They are also responsible for laying minefields and making bombing runs, as the spacecraft's trajectory has a great deal of control over whether bombs strike their target and the final positions of mines. A Helmsman is recommended to have training in the Pilot and Stealth skills, and their attack bonus is relevant when the spacecraft uses mines or bombs.

Technician

The Technician is responsible for Engineering and Technical matters on a spacecraft, controlling the power core's output, and where all that power goes. They're also responsible for directing and analyzing the results of a spacecraft's sensors and a skilled technician is indispensable when attempting to oppose another spacecraft's attempts at stealth. A technician is recommended to have training in the Technology Use, Craft (Electronic), Craft (Structural) skills.

Flight Controller

The Flight Controller is responsible for directing all things related to utility and strike craft, directing their actions in combat, managing their maintenance, and deciding when, where, and how they should deploy. As utility and strike craft generally use crew ratings for their actions, a Flight Controller doesn't have any strict recommendations for skills or attack bonuses, allowing the role to be filled by any character with a keen sense of battlefield tactics.

Special Roles

These roles are specific to certain types of spacecraft, and are generally related to directing a spacecraft's overall strategy, rather

than specific actions. Officers with special roles can and do perform tasks in basic roles outside of any special responsibilities their special role might entail.

Pilot

The Pilot is a special role for spacecraft of small or smaller size that are crewed by only a pilot and sometimes a copilot. The pilot of a small or smaller craft can take Gunner, Helmsman, Technician, and Flight Controller actions without being penalized for taking actions associated with different roles in the same turn. They may also control multiple weapons or batteries of weapons without penalty.

Copilot

The Copilot is a special role for spacecraft of small or smaller size that are crewed by only a pilot and a copilot. The copilot is meant to complement a pilot, providing a smaller craft with a larger diversity of skills. The copilot can take all of the same actions as the pilot, but is particularly useful for emergency response, which might otherwise take all of a Pilot's attention, leaving a small ship essentially uncrewed for the duration. If a pilot and copilot disagree on the specifics of what actions their spacecraft should take, then the Pilot's decision takes precedence.

Captain

The Captain is a special role for spacecraft of medium size or larger. The Captain is responsible for determining who does what and when on a spacecraft, especially in combat. If, for example, the different officers can't decide among themselves whether the spacecraft should advance to attack with flak cannons or flee and attack with torpedoes, then the captain is responsible for the final decision. The captain is also responsible for being the 'face' of a spacecraft, communicating with others on it's behalf. While this responsibility can be delegated to crew, many spacecraft captains prefer to speak on equal terms, especially when two spacecraft encounter each other for the first time in space. A spacecraft's Captain is therefore recommended to have practiced social skills, such as Presence or Speechcraft.

Roles and Combat

Roles in a combat situation can be rather fluid. As situations change, so do the roles an Officer might fill. An Officer may be on the bridge directing weapons one turn, only to leave to direct some emergency response the next. The roles an Officer fills will likely change each turn as circumstances develop.

Roles and Size

While a spacecraft's special roles depend on it's size, basic roles are available on any spacecraft. In the event there are more than two officers on a spacecraft of small or smaller size, the officers beyond the pilot and copilot can still perform Gunner, Helmsman, Technician, or Flight controller actions, but unlike the pilot and copilot, these additional officers will take the normal penalty for performing as multiple roles in a single turn. Likewise, any disputes on a spacecraft's actions are settled by the pilot.

Spacecraft Actions

Spacecraft have their own set of actions, separate and distinct from the actions used by characters.

Spacecraft Actions	CP cost	Role
Fire Weapon	3 CP	Gunner
Calculated Fire	7 CP	Gunner
Sub-Targeted Strike	7 CP	Gunner
Point Defense	3 CP	Gunner
Fire Battery	3-6 CP	Gunner
Bombing Run	6 CP	Helmsman
Lay Minefield	4 CP	Helmsman
Thrusters	1 CP/Δ	Helmsman
Engine Boost	1 CP	Helmsman
Evasive Maneuvers	3 CP	Helmsman
Stealth	4 CP	Helmsman
Docking	3 CP	Helmsman
Charge Shields	3 CP	Technician
Boost Power Core	5 CP	Technician
Active Sensors	2 CP	Technician
Jam/Intercept Comms	1 CP	Technician
Charge FTL/Light	12 CP	Technician
Deploy Strike Craft	3 CP	Flight Controller
Command Strike Craft	3 CP	Flight Controller
Deploy Utility Craft	2 CP	Flight Controller
Emergency Response	5 CP	Special
Delay	See Text	Special
Ready	See Text	Special

Table 90: Spacecraft Actions

Gunner Actions

Fire Weapons

Choose a weapon and make an attack roll against a target within the weapons' range, spending Ammunition and Energy as required. Gunners are not responsible for attacks with Bombs or Mines. See the Bombing Run and Lay Minefield actions.

Sub-targeted Strike

A spacecraft that makes a sub-targeted strike is aiming their weapon at a particular part of a target spacecraft with the intent of disabling or crippling some component. Choose Engines, Dock, Shields, Sensors, or Power Core. When making a sub-targeted strike, the weapon's normal Critical Condition is replaced with Component Crippled condition for the chosen component. If the weapon's Critical Threat Range is higher than 12-18, lower it to 12-18. Battery attacks can not be sub-targeted strikes. Because a sub-targeted strikes requires very precise targeting, a spacecraft can't make one if their target has cover or concealment.

Calculated Fire

The spacecraft chooses one target and calculates a precise firing solution based on it's target's distance and trajectory. The spacecraft makes a single weapon attack which ignores it's target's movement bonus to defense. Calculated Fire cannot be used with batteries.

Fire Battery

Choose a battery of weapons and choose either Saturation or Focused Fire when making the attack. The CP cost of a Battery fire attack depends on how many weapons are in the battery. For 2 or 3 weapons, battery attacks cost 3 CP. From 4 to 7 weapons, battery attacks cost 4 CP. From 8 to 11 weapons, battery attacks cost 5 CP. For 12 or more weapons, battery fire attacks cost 6 CP.

Focused Fire

Focused Fire aims every weapon in the battery against a single target for maximum effect. Choose a single target and make an attack roll. Focused fire deals +1 damage for every weapon in the battery, plus 1 additional damage die for every two weapons. If a weapon's base damage includes a flat damage modifier, such as in the light plasma's '1d8+1' or the Heavy Laser's '3d8+4' add this modifier again for each additional damage die your battery attack would gain from it's quantity of weapons.

Saturation Fire

Saturation Fire spreads munitions across a wide area, in order to increase the probability of a hit. The spacecraft makes one attack roll and compares it to the defense of every target in the affected area. A battery making a saturation fire attack gains a +1 attack bonus for every two weapons in the battery, and 1 additional damage die for every three weapons. Saturation fire deals double damage to strike craft. Saturation fire has a different shape depending on the type of weapons used. When using saturation fire with Cannons, Rockets, Missiles, or Torpedoes the attack is a burst with a 1Δ radius centered on a point within the weapon's range. For other weapons, it is a cone that is 1Δ long that extends from the spacecraft's location. For every 4 weapons in a battery, you may increase the size of the saturation fire's effect by 1Δ to a maximum equal to the weapon's maximum range. For every 1Δ you increase the affected area by, you must spend an additional amount of ammunition or energy to make the attack. This additional ammunition is equal to the amount required to make a battery attack. If a weapon's base damage includes a flat damage modifier, such as in the light plasma's '1d8+1' or the Heavy Laser's '3d8+4' add this modifier again for each additional damage die your battery attack would gain from it's quantity of weapons.

Point defense

Point Defense allows a spacecraft to defend itself against certain weapons, hazards, and enemy strike craft. Point Defense can be used to defend against attacks from squadrons of enemy strike craft, bombs, mines, rockets, missiles, torpedoes, and hazards like minefields, asteroid fields, and debris fields. Choose a weapon or battery of weapons. The chosen weapon or battery is reserved for point defense and can not be used for normal attacks until the start of the spacecraft's next turn. Until then, when the spacecraft is attacked by a weapon or squadron or navigates a hazard that can be defended against with Point Defense, it may expend ammunition and/or Usable Energy (UEG) as though it had attacked with the reserved weapons. If it does so, the spacecraft gains +4 to it's defense against the attack, with an additional +1 defense for every two weapons in the battery performing point defense, or an equal bonus to the pilot check when navigating a hazard. This bonus to defense is decreased by 1 for each time in a single round that a spacecraft chooses to use it. A spacecraft may also use the point defense action to defend another spacecraft, but that spacecraft must be entirely within the weapon or battery's range, and when doing so, the other spacecraft receives only half the normal bonus to defense or pilot checks. A spacecraft can only benefit from one point defense action at a time. If a spacecraft would have multiple bonuses from point defense, use only the single highest bonus.

Helmsman Actions

Bombing Run

To make a bombing run, a spacecraft must be equipped with bombs or mines. The spacecraft makes an attack roll, taking a -6 penalty if they're using mines. For each Mine Layer or Bomb Bay in a battery, the bombing run deals an additional die of damage, and for every two weapons in a battery, the spacecraft receives a +1 bonus on their attack roll. A bombing run must use the same type of ammunition for all weapons in a battery.

Lay Minefield

A spacecraft that is equipped with mines or bombs can lay them in it's own square or an adjacent square. A spacecraft can not lay mines in a square containing another spacecraft. For each mine layer or bomb bay beyond the first in a battery they may lay mines or bombs in an additional square. A minefield's attack roll ignores any bonus to defense that a spacecraft may have from movement. A spacecraft using Bombs to create a minefield receives a -6 penalty on the minefield's attack roll, as the bombs won't detonate unless directly impacted. A minefield must be created with the same kind of ammunition used by all weapons. See Minefields for more information. Mines arm themselves at the end of the spacecraft's turn. A square can only contain one minefield. Attempting to lay multiple minefields in a single square causes all of the mines to detonate, destroying the minefield entirely.

Thrusters

Spend Combat Points to move. Spacecraft move at a rate of 1Δ/CP. Spacecraft with a positive Movement Score (MOV) can move that many Δ before spending a combat point to move, while those with a negative Movement Score (MOV) need to spend that many additional combat points for the first 1Δ they move in a turn. When a spacecraft moves, it receives a certain bonus to Defense (DEF). After the first 4Δ it moves in a turn, the spacecraft receives +1 Defense (DEF) for every additional 1Δ it moves, up to +10 DEF.

Engine Boost

The Engine boost action increases the performance of a spacecraft's engines by spending Usable Energy (UEG). An engine boost costs 2 Usable Energy for every point of Movement Score that is gained. If a spacecraft if larger than small, it costs 1 additional Usable Energy per Movement Score for every size category it is above small. When a spacecraft moves, it receives a certain bonus to Defense (DEF). After the first 4Δ it moves in a turn, the spacecraft receives +1 Defense (DEF) for every additional 1Δ it moves, up to +10 DEF.

Ramming

Ramming is a special kind of spacecraft attack that involves intentionally colliding with another spacecraft. Ramming isn't it's

own action, but is instead performed as part of movement. To perform a Ram, a spacecraft must be at least 3Δ away from the spacecraft it wishes to ram, and then it merely needs to move into that spacecraft's square and declare it as a ram. The spacecraft performing a ram makes a special attack roll, adding their Movement Score (MOV) as an additional bonus or penalty. If the attack is successful, the two spacecraft collide. See Collisions and Ramming. A Ramming attack deals bludgeoning damage, has a critical of 16-18 and the Reeling critical condition.

Evasive Maneuvers

The Evasive Maneuvers action is used to evade attacks from enemy spacecraft. The spacecraft must make a TN 15 pilot check and if successful, it receives a +3 bonus to Defense for one round, with an additional +1 for every 5 by which they exceed the TN. While performing evasive maneuvers a spacecraft takes a -2 penalty on attack rolls. A spacecraft can only benefit from one Evasive Maneuvers action at a time. If a spacecraft performs Evasive Maneuvers again, the new bonus replaces the previous bonus.

Stealth

The Stealth action attempts to conceal a spacecraft against detection by others. Attempting to hide a spacecraft's normal operation in open space without some obstruction like a debris or asteroid field is effectively impossible. This doesn't apply when the spacecraft is using Silent Running or Cloak. While using stealth, whether by taking advantage of obstructions, silent running, or cloak, a spacecraft doesn't appear on passive sensors, instead requiring that anyone one who wishes to detect them use the Active Sensors action, rolling a Technology Use check opposed by the spacecraft's Stealth roll.

Silent Running

A spacecraft that is Silent Running is operating without radiating any of it's waste heat. This makes it much harder to detect and aim weapons at it, granting it partial concealment (30% miss chance) and allows it to make stealth checks in open space at no penalty. Because a spacecraft's engines are one of their largest heat sources, spacecraft using Silent Running have to minimize their use of thrusters to stay hidden. While silent running, their Movement Score (MOV) is reduced by 2, or to 0, whichever is lower. Spacecraft naturally generate large amounts of heat, so one can only operate this way for a limited amount of time. A spacecraft that spends more than 5 rounds Silent Running in a single encounter will begin to overheat and take damage. This is, however, in idle operation. In combat, every action taken that consumes energy, such as charging the shields or firing energy weapons will reduce this time by one round, to a minimum of one round. A spacecraft that overheats takes damage at the start of it's turn in any round where it continued to use Silent Running. The damage it takes is 1d8 + 1d8 per size category it is above medium, ignoring Hull Hardness (HRD).

Cloak

Activate the spacecraft's cloaking module. The cloaking module uses 5 Usable Energy (UEG) + 5 Usable Energy (UEG) per size category the craft is above large per round. While cloaked, the spacecraft has a +8 bonus on stealth checks and total concealment (50% miss chance).

Docking

Enter a spacecraft's dock and land. Docking requires that you're adjacent to the spacecraft you want to dock in. Docking in a stationary spacecraft is trivial and requires no dice roll. Docking to a spacecraft that is moving is an entirely different matter. Make a pilot check with a TN equal to 10 + 1 for every 1Δ the spacecraft you are docking in has moved since it's last turn. If you fail the check by 4 or less, your spacecraft crash lands in the dock, taking damage equal to it's collision dice in d4s. If you fail by 5 or more, you actually collide with the spacecraft instead of docking(See Collisions and Ramming). To leave a spacecraft's dock, a docked spacecraft merely needs to spend CP to move out of the dock.

Technician Actions

Active Sensors

The spacecraft performs an active scan of an area, spacecraft, or other object. When using this action to search an area or detect hidden spacecraft, make a Technology Use check against the TN or the spacecraft's opposed stealth roll. When attempting to detect hidden spacecraft, a successful check reveals the spacecraft's current location, but doesn't negate any concealment it may have against attacks. This action is also used to gain a target lock for guided weapons like missiles and torpedoes. Acquiring a target lock requires no skill check. The target lock is established on the spacecraft's next turn. Torpedoes and Missiles require a target lock to use their guidance systems.

Jam/Intercept Communications

A spacecraft can Jam or Intercept radio communications. Jamming communications will fill the area with garbage signals, making radio communication in the combat zone impossible. Intercepting communications however, can allow you break the encryption found on standard spacecraft communications, letting you listen in on what other spacecraft are sharing with each other. Intercepting communications requires a technology use check, opposed by the technology use skill of the spacecraft you are attempting to intercept communications from.

Charge Shields

When performing this Action, the spacecraft expends Usable Energy (UEG) equal to it's shield's Power Drain (DRN) and increases their soak capacity by their recharge value. The spacecraft can't charge their shields if they've been reduced to 0 soak less than one round ago.

Boost Power Core

Temporarily increase the Power Core's Energy output. The spacecraft gains additional Usable Energy (UEG) equal to it's Energy Regeneration (RGN). Perform a Craft (Electronics) check [TN10]. On a failure, the spacecraft gains the Drained condition at the end of it's turn. This condition lasts for 1 round for each time the power core was consecutively boosted successfully. This TN increases by 5 each time the Power Core's output is boosted, and resets each time the spacecraft is Drained after a failed check, or after 10 rounds without boosting the power core again.

Charge FTL/Light Engine

Begin to charge the spacecraft's FTL/Light engine. While charging, the spacecraft can not move without ruining it's navigation computer's calculations, wasting any Usable Energy (UEG) already spent, and causing the charging process to need to be started over from 0 Usable Energy (UEG) again. While charging, a spacecraft gains Usable Energy (UEG) at the start of it's turn as normal, but at the end of each of it's turns, all of that Usable Energy (UEG) is spent to charge the Light/FTL engine. The Light/FTL engine activates automatically when it has been charged with enough Usable Energy (UEG). Light engines require 150 Usable Energy (UEG) to activate, while FTL engines require 500 Usable Energy (UEG).

Flight Controller Actions

Deploy Strike Craft

The spacecraft deploys a squadron of Strike Craft such as drones, fighters, interceptors, or attackers. When deploying a squadron, choose any number of strike craft stored on the spacecraft's docks, couplers, or pod harnesses to be part of it. The squadron leaves their mothership and follows it, taking no other action as per the Ready command.

Command Strike Craft

Using this action, Strike Craft can be directed to Ready, Attack, Defend, Screen, or Return. Once commanded, the Strike Craft will continue taking the assigned action each round until commanded otherwise.

Ready The squadron moves to a location or follows a spacecraft but takes no other action until directed otherwise. If left undirected, strike craft are readied and follow their mothership.

Rearm Using this action, module weapons on a docked spacecraft can be rearmed with fresh replacements from the mothership's cargo. Up to 6 BP of module weapons may be replaced per use of this action. The Rearm action cannot be Readied.

Attack Directing a squadron to attack a target will send them to it's location to attack it. Squadron attacks are rolled with a spacecraft's crew modifier, gaining a +1 bonus for every 4 craft in the squadron, to a max of +5. Squadrons will move their speed and attack their target once per round if they reach it, thus it's possible to outrun them.

Defend Directing a squadron to defend will send them to a target area or location. Squadrons defending a target will follow it closely and once per round on their mothership's turn will scramble to perform hit & run attacks against nearby enemy craft before returning to their target's position. Defending affects an area around a spacecraft with a radius equal to half the squadron's speed. The squadron makes one attack using the spacecraft's crew modifier against the defense of all targets in that area, and it deals the squadron's damage dice split between them as the flight controller desires. Determine how many damage dice affect each target before the attack roll is made. No more than half of the squadron's damage dice may be allocated to one target, even if there is only one craft in the area. Enemy craft using stealth to avoid detection are unaffected by the Defend Command. Targets successfully attacked by the defending squadron also receive a -1 penalty to attack rolls, skill checks, and Movement Score (MOV) for every four craft in the squadron. The speed of enemy squadrons is unaffected, but their attack rolls are.

Screen Directing craft to Screen a target will send them to it's location and when they arrive, they will defend the target against enemy squadrons, projectiles weapons and hazards. Screening can defend against attacks from squadrons of enemy strike craft, bombs, mines, rockets, missiles, torpedoes, and hazards like minefields, asteroid fields, and debris fields. The target gains a +4 bonus to defense against these weapons with an addition +1 bonus for every two craft that are screening. An equal bonus is gained to pilot checks when navigating minefields or asteroid/debris fields. A spacecraft can only benefit from one Screen action at a time. If a spacecraft would have multiple bonuses from Screen, use only the single highest bonus.

Return The squadron returns to it's mothership and is inspected, repaired, and rearmed. The craft that were members of that squadron are retained and will be available at full HP in the next combat encounter. If a deployed squadron received damage in combat before returning, none of it's members can be deployed again during this combat encounter for safety reasons.

Deploy Utility Craft

Deploys one or more utility craft such as repair or drop pods. Repair pods will immediately begin to repair one target within range, Drop pods will move away from their mothership and drop towards a planet if one is nearby, or wait in space if there isn't one. Freight cars do nothing when deployed.

Special Actions

Emergency Response

Removes a condition from the Spacecraft by directing Emergency Response such as fire suppression, emergency repair, or other tasks. The skill required and TN vary by the condition. This action may be used to repair a spacecraft docked with the ship as if manually repairing, using an entire ton of repair supplies instead of the normal amount. Emergency response is a special role action. Emergency Response can be performed by Crew or Officers, but an officer performing an emergency response can't perform any other actions that turn, the emergency simply requires all of their attention and effort for that round.

Delay

By choosing to delay, the spacecraft takes no action and then acts normally at whatever point in the Initiative count the spacecraft decides to act. When a spacecraft delays they voluntarily reduce their own Initiative result for the rest of the combat. When the spacecraft's new, lower Initiative count comes up later in the same round, the spacecraft can act normally. The spacecraft can specify this new Initiative result or just wait until some time later in the round and act then, thus fixing the spacecraft's new Initiative count at that point. A spacecraft cannot interrupt anyone's action with a delayed action (as a spacecraft can with a readied action; see below).

Delaying Limits The longest a spacecraft can delay before taking an action is until after everyone else has acted in the round. At that point, the delaying spacecraft must act or else forfeit any action in that round. If multiple spacecrafts are delaying, the one with the highest Initiative modifier (or highest AGI in case of a tie) has the advantage. If two or more delaying spacecrafts both want to act on the same Initiative count, the one with the highest Initiative modifier can go first. If two or more delaying spacecrafts are trying to go after one another, the one with the highest Pilot or Helmsman's AGI modifier can go last; the others must go first or lose their action for the round. If a spacecraft loses an action due to delaying, they may act on any count on the next turn. Again, the spacecraft cannot interrupt an action.

Ready

The ready action lets a spacecraft prepare to take an action later to interrupt another spacecraft. On the spacecraft's turn they prepare to take an action later if a specific trigger is met. Later in the round, if the readied action is triggered, the spacecraft takes their action before the triggering action.

Readying an Action

To do so the spacecraft specifies the action they will take and the conditions under which the spacecraft will take it. Then, any time before the spacecraft's next action, the spacecraft may take the readied attack action in response to those conditions. The readied action occurs just before the event that triggers it. If the trigger is part of another spacecraft's actions, the readied action interrupts the other spacecraft. The other spacecraft continues their actions once the readied action is completed. The waiting spacecraft acts immediately ahead of the spacecraft whose action triggered the readied action. A spacecraft can move as normal, but only as long as the spacecraft doesn't spend the Combat Points needed to accomplish the readied action. A spacecraft may only ready one attack action. If the spacecraft comes to their next action and has not yet performed the readied action, the spacecraft doesn't get to take the readied action (though the spacecraft can ready the same action again). If the spacecraft takes their readied action in the next round before their regular turn comes up the spacecraft's Initiative count doesn't change.

Combat Basics

Spacecraft Combat uses many of the same combat rules as combat between individual characters. The following rules work in a similar way to how they're described in the Ops and Tactics Core Rulebook.

Attack Rolls

All spacecraft attacks are ranged attacks using the sum of the result of three six sided dice, a character's base attack bonus and their MRK modifier. A natural roll (The sum of the three dice before any modifiers are added) of 16-18 is an automatic hit, and a natural roll of 3 is an automatic miss. Spacecraft attacks do not involve modifiers for size, range, or recoil.

Damage

When a spacecraft hits with a weapon they deal damage according to the type of weapon. A spacecraft's Hull Hardness (HRD) is subtracted from the damage and then the damage is deducted from the target's current HP. Sometimes damage is multiplied by some factor. In this case, roll the damage (with all modifiers) and multiply the damage by the multiplier.

Initiative

At the start of a combat encounter, each spacecraft rolls for Initiative. A spacecraft's Initiative modifier is determined by the rating of it's engines. In Combat, time is structured into rounds that last one minute. During each round, Spacecraft act in turn, with the order of turns determined by the spacecraft's initiative rolls, in order from highest to lowest. On all following rounds the characters act in the same order unless a character takes an action that results in their Initiative changing. If two or more combatants have the same Initiative check result, the combatants who are tied go in order of total Initiative modifier. If there is still a tie, the characters who tie reroll for the position. If spacecraft enter a battle after it has begun, they roll Initiative at that time and act whenever their turn comes up in the existing order.

Surprise

When a combat starts, if a spacecraft was not aware of it's enemies and they were aware of the spacecraft, that spacecraft is surprised. Likewise, a spacecraft can surprise their enemies if the spacecraft knows about them before they're aware of the spacecraft. If some but not all of the combatants are aware of their opponents, a surprise round happens before regular rounds begin. The combatants who are aware of the opponents can act in the surprise round, so they roll for Initiative. In Initiative order (highest to lowest) combatants who started the battle aware of their opponents each can spend half of their Combat Points during the surprise round. If no one or everyone is surprised, the surprise round does not occur. Spacecraft who are unaware at the start of a battle do not get to act in a surprise round, but do not take any additional penalties.

Combat Points

A spacecraft's Combat Point score determines how many actions a spacecraft can perform during their turn. A spacecraft can perform as many actions as they have Combat Points to spend on. Any Combat Points left over do not cycle over between rounds. A spacecraft's number of combat points is determined by its size. A spacecraft may spend as many Combat Points as they possess, but once they spend all of their Combat Points their turn is over.

Combat Rounds

Each round represents 1 minute in the game world. Each round's activity begins with the spacecraft with the highest Initiative result and then proceeds, in order from there. Each round of a combat uses the same Initiative order. When a spacecraft's turn comes up in the Initiative sequence that character use their Combat Points to perform actions. For almost all purposes there is no special meaning to the beginning or end of a round. A round can be a segment of game time starting with the first character to act and ending with the last, but it usually means a span of time from a certain round to the same Initiative number in the next round. Effects that last a certain number of rounds end just before the same Initiative count that they began on.

Feats

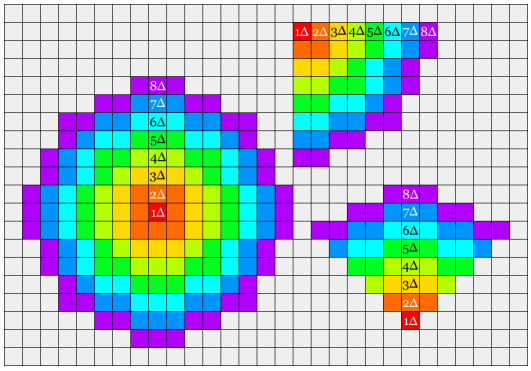
A character's feats offer no modification to spacecraft's initiative, attack rolls or damage. Feats that increase a character's skill modifiers still apply when that character makes a skill check as part of a spacecraft's action.

Weapons and Batteries

Weapons can be fired individually or as part of a battery. A battery is a group of at least two identical weapons which are for most purposes treated as a single weapon. When grouping weapons into a battery, the Ammunition and Usable Energy (UEG) costs are multiplied by the number of weapons in the battery. Some special weapons, such as Turbolasers, can't be formed into batteries.

Area Attack Templates

Some spacecraft actions affect an entire area instead of a single spacecraft or object. To determine the area affected by a burst or cone, treat the effect as "moving" from the targeted square following the same rules as spacecraft for diagonal movement, with the first square counting for the first 1Δ of that "movement". Below are references for both cones and blast radius.



Slow Projectiles

Missiles and Torpedoes travel at relatively slow speeds in spacecraft scale, being slower than most other projectiles, but still capable of moving faster than spacecraft. When firing missiles or torpedoes at a target, spend combat points as normal, but roll attacks for them at the start of the spacecraft's next turn, when they arrive at their target. Guided projectiles with a target lock are capable of following their targets even if they move outside of the weapon's initial firing range.

Acquiring and Maintaining Target Locks

A target lock means that your spacecraft's active sensors have precisely located and are tracking another spacecraft or object in space. This tracking information is used by guided weapons like missiles and torpedoes in order to accurately drive them to their targets. Once you've acquired a target lock, it will be maintained unless one of the following happens:

- The target is destroyed.
- The target deploys countermeasures.
- The target has total concealment against you.
- The spacecraft intentionally breaks it's target lock to acquire a new one against a different target.

If any of those circumstances occur, the current target lock is broken, and a new target lock will have to be acquired. A spacecraft can not acquire a target lock on a spacecraft if it already has one. The number of concurrent target locks a spacecraft can maintain against separate targets is based on it's sensors. Standard Sensors can maintain up to 2, while Advanced Sensors can maintain up to 4. If a spacecraft is maintaining the maximum number of target locks it can and tries to acquire a new one, it must choose one of it's existing target locks to break.

Critical Strikes

When a spacecraft makes an attack roll and receives a natural 16-18, the spacecraft hits regardless of the target's DEF. When a spacecraft makes an attack roll and receives a natural roll within the weapon's critical range, it scores a critical strike if its attack hits. Critical Strikes against living creatures work the same way they do in individual scale, but a critical strike scored against a spacecraft has unique effects. Each spacecraft weapon has an associated Critical Condition. On a critical strike, the attacker's damage ignores all of the target's Hull Hardness (HRD) and the target spacecraft is afflicted with the weapon's Critical Condition. An attack must strike a spacecraft's hull to be a critical strike, therefore Plasmas, Lasers, and Ions don't critically strike or cause critical conditions when damaging a spacecraft's shields.

Spacecraft at Individual Scale

When calculating damage for individual scale, multiply all damages dealt by a spacecraft weapon by 10. Damage is divided by 5 and Hull Hardness (HRD) is increased by 30 for all spacecraft when attacked by individual scale weapons.

Ammunition Stockpiles

Ammunition is shared between all weapons of a given type. For example, if your spacecraft has a battery of four Light Autocannonss, then all of them will draw from the same stock of ammunition.

Damaging Spacecraft

All spacecraft have Hull Points, which are roughly equivalent to a character's Hit Points. Like most inanimate objects, spacecraft also have hardness. Whenever a spacecraft takes damage, subtract the spacecraft's hardness from the damage dealt. When a spacecraft is reduced to 0 Hit Points, it is disabled. Although it might be repairable, it ceases functioning and floats in space. If it is within an atmosphere, it immediately begins to plummet to the surface. A spacecraft is destroyed when it loses Hit Points equal to three times its full normal total. A destroyed spacecraft cannot be repaired.

Repairing Spacecraft

The capital spent to purchase a spacecraft also pays for it's continued maintenance and repair. A spacecraft that has been damaged or disabled can be serviced by a garage, port, or some other suitable facility.

Standard Repair Services

When a spacecraft receives standard repair, it's HP is restored at the rate of 5 HP per day. This has no associated cost, as the the arrangements needed to pay for it were already part of the capital spent to purchase the spacecraft itself.

Manual Repair

If a suitable facility isn't available or would be too time consuming a spacecraft can also be repaired manually. Repairing damage to a spacecraft takes 8 hours, a mechanical tool kit, access to a location with gravity and oxygen, and repair supplies. One ton of repair supplies can be used to perform repairs 10 times before being used up. (Without the tool kit, a character takes a -4 penalty on their Craft check. Without a suitable location, a character requires a space suit to perform manual repairs, and the time required to perform repairs is doubled.) At the end of the 8 hours, make a Craft (Structural) check [TN20]. Success restores 2d6 Hull Points, with an additional 1d6 restored for every 5 by which their result exceeds the original TN. If damage remains, the character may continue to make repairs in 8 hour increments as it takes to restore all of the spacecraft's Hull Points, as long as they have enough supplies on hand.

Movement in combat

The most basic form of movement in spacecraft combat is the use of thrusters to propel the ship. A spacecraft's ability to move is affected by it's movement score, which is determined by the size of a spacecraft's hull and the rating of it's engines. The higher a spacecraft's movement score, the more it can move in combat. For example, a spacecraft wants to move 4Δ in it's turn. It's movement score is -2, so it must spend 6 CP to complete it's move. Alternatively, if a another spacecraft wanted to move that distance and it had a movement score of 4, it could do so for 0 CP, only spending 1 CP for every 1Δ it moved after the 4th. When a spacecraft moves diagonally, the distance is counted as 1Δ for every odd square and 2Δ for every even square. Thus if a spacecraft moves 5 squares along a diagonal, it would move 1Δ for the first, third, and fifth square and 2Δ for the second and fourth, for a total of 7Δ, requiring the spacecraft spend 7 CP ± their Movement Score (MOV). When a spacecraft moves, it receives a certain bonus to DEF. After the first 4Δ it moves in a turn, the spacecraft receives +1 DEF for every additional 1Δ it moves, up to +10 DEF.

Collisions and Ramming

A collision occurs when a spacecraft strikes another craft or a solid object. Ramming is when a collision is caused intentionally. A spacecraft does not have to perform an action to ram another spacecraft, they only need to pilot their spacecraft into the other spacecraft and declare it as a Ram for a collision to occur.

Resolving Collisions

The base damage dealt by a spacecraft collision depends on the speed and size of the objects involved. Collisions at atmospheric speeds use d6s for dice, while collisions at sublight speeds use d10s. Due to the specifics of the physics involved, it's not technically possible for a spacecraft traveling at light speed to collide with anything. All sizes listed are in Spacecraft scale.

Each spacecraft has it's own collision damage. When two spacecraft or similar objects collide, they deal their collision damage to each other. When a spacecraft collides with something much larger than itself, such as a space colony, an extremely large asteroid, or the surface of a planet or moon, the spacecraft is disabled and has damage equal to 200% of it's normal Hit Points (HP). For this purpose, a "much larger" object is something large enough that it might be considered a "location" rather than an object. For example, if a medium spacecraft were the size of a person, then something the size of a village or, at the very least, a large building like a skyscraper would qualify.

Object Size	# of Dice
Colossal	12
Gargantuan	10
Huge	8
Large	6
Medium	4
Small	3
Tiny	2
Diminutive	1
Fine	1
Insignificant	0

Table 91: Object Size and Collisions

Collisions and Ramming deal an amount of damage based on a spacecraft's size. A collision is typically accidental, caused by a Pilot's failure in judgment or a failed pilot check, and involves no attack roll. Conversely, ramming is an intentional act, typically intended to cause as much damage as possible. After a spacecraft's base collision damage is determined, various circumstances can affect the final damage from a collision.

Collision Circumstances	Modifier
Evasive Maneuvers	×½
Craft Used Engine Boost	×2
Speed	+1/1Δ

Table 92: Collision Circumstances

- A spacecraft that is performing evasive maneuvers takes 1/2 damage from spacecraft and objects that collide with it, this doesn't apply when the spacecraft taking evasive maneuvers is the one that causes the collision, either intentionally or by accident.

- A spacecraft that is moving deals additional damage in a collision. This damage is +1 per 1Δ moved during the last turn. This damage is added after applying multipliers. If the spacecraft that is moving is performing an engine boost, this damage is added again to the other object.

When two spacecraft collide, the smaller one is sent Reeling unless they succeed at a pilot check TN 20. The TN is increases by an additional 5 for every two size categories of difference between the colliding spacecraft. If the spacecraft are of equal size, both of them must succeed at a TN 20 pilot check or be sent Reeling.

Utility and Strike Craft in Combat

A spacecraft may be served by numerous other vessels. Utility craft are considered individually. They have their own Defense and HP, and can be targeted and attacked individually. Strike Craft are handled differently from standard spacecraft, instead being managed in squadrons. A squadron consists of one or more strike craft. A squadron's HP is equal to the sum of it's member's HP. Likewise, it's damage is the sum of it's member's damage. However, it's defense and speed are equal to the lowest among it's members. A squadron uses the critical rate and critical condition shared by the largest number of it's members. For example, if there are eight craft armed with Guns, and four armed with Plasmas, then the squadron uses the critical rate and critical condition listed for Guns. Utility and strike craft sharing the space of a friendly larger spacecraft have partial cover against attacks by spacecraft (but are still vulnerable to enemy squadrons), and are protected by the larger craft's shields.

Damaging and Repairing Squadrons

Squadrons can be attacked and damaged as spacecraft can. If a squadron's HP is reduced to 0, that squadron is routed. Half of the squadron's members are destroyed, while the other half scatter in random directions before returning to their mothership. If a squadron consists of multiple classes of craft, half of the members of each class is lost (rounded up). Squadrons aren't subject to critical strikes or collisions. Strike craft that return to their mothership, either after a rout or using the return action, are fully repaired and combat ready for the next combat encounter.

Squadrons and Motherships

A squadron is reliant on it's mothership for flight control, orders, and coordination. Conditions that affect the mothership's skill checks or attack rolls will affect a squadron's as well. Not only that, but if a spacecraft is disabled or destroyed by the enemy, all of it's squadrons are routed as well.

Cover & Concealment in Space

Space is large, and mostly empty. In open space, there is very little a spacecraft can do to hide from their enemies, but this isn't universally the case. If combat is taking place in a ring system, for example, then targeting a spacecraft at a distance can be quite a problem. Cover and Concealment are simplified compared to their equivalents at individual scale. Each consists of two levels, Partial and Total.

- **Partial Cover** The spacecraft is partially obscured by another object, such as an asteroid field or another spacecraft of the same size. It has a +3 bonus to it's defense.
- **Total Cover** A spacecraft with Total Cover is completely obscured by another object, such as a larger spacecraft or an asteroid. All attacks against the spacecraft are deferred to the object providing total cover.
- **Partial Concealment** A spacecraft with Partial Concealment is hard to detect with a spacecraft's normal sensors. It may be particularly cold, obscured by clouds of dust and gas, or made from materials that scatter or absorb sensor emissions in irregular ways. A spacecraft with partial concealment may require the use of active sensors and a technology use check to determine it's location, and any attacks targeting it have a 30% miss chance.
- **Total Concealment** A spacecraft with total cover doesn't appear on other spacecraft's sensors at all. For a spacecraft to have Total Concealment, it must either be cloaked, or obscured by something that produces large quantities of sensor noise, like a plume of coronal gas near a star, a very large explosion, or some device intentionally designed to interfere with sensors. A spacecraft with Total Concealment can't be detected without the active sensors action and a technology use check, and any attacks targeting it have a 50% miss chance.

Attacking Objects

Large natural objects in space, such as asteroids or comets, are typically made of rocky, icy, or metallic substances that don't fare well against weapon's fire. Each square of such an object can typically withstand only 50 damage before breaking apart into small particles of dust and rocks that provide no cover. Natural objects have 0 hardness, being very fragile compared to spacecraft which are designed to endure weapons fire. Large Artificial objects are typically much tougher, having 8 hardness and being capable of taking 100 damage per square before breaking apart into a debris field. If they're something like a space station, they may have unique statistics of their own. The remnants of a destroyed spacecraft or space station are usually more fragile, having half the hardness they had before being destroyed, and only being able to sustain 15 damage per square before breaking apart into a debris field.

Hazardous Environments

Environments within space can greatly affect the tactics used in combat. The following section describes some of the common hazards a spacecraft may encounter. Some of these hazards may affect the entire combat area, while others may only affect a small portion of it.

Asteroid and Debris Fields

An asteroid field is a wide belt of space rocks, often seen forming the rings of large gas giant planets. A debris field is a large field of space trash, often formed from broken ships and destroyed space stations. All small Sized and smaller ship gain an additional +3 Defense while inside the asteroid belt or debris field. When a spacecraft enters or starts it's turn within the asteroid or debris field it must make a Pilot check [TN15] or take damage from an impacting asteroid or piece of debris. Roll D% and consult the table below.

D%	Impact Damage
01	10d12
02-05	8d10
06-10	6d10
11-15	4d10
16-45	3d10
46-75	2d10
76-00	1d10

Table 93: Asteroid and Debris Field Impact Damage

Nebulae

Nebulae are large collections of dust and gas in space. Often they're stellar nurseries, or the leftovers of massive stars after a supernova explosion. Nebulae are of vast scale, and can envelop multiple star systems. Nebula often glow brightly, as the gas and dust particles reflect and fluoresce from the light of nearby stars. These reflections and florescences can interfere with a spacecraft's sensors. Spacecraft inside a nebula take a -10 on technology use checks when using Active Sensors, and require an additional round to establish a target lock with missiles and torpedoes.

Ion Nebulae Ion Nebulae are special nebulae that form around particularly active stellar objects, and are comprised primarily of heavily ionized gas that disrupts electrical systems, shields, and power cores. In addition to the normal effects of a nebula, a spacecraft within an ion nebula has it's Maximum Usable Energy (UEG) and Energy Regeneration (RGN) reduced by half.

Minefields

Minefields are dangerous hazards created when a spacecraft lays mines or bombs in a square. When a spacecraft moves through a square containing mines, the mines detonate. The mines make an attack against that craft using the attack bonus of the spacecraft that dropped them. A minefield's attack roll ignores any bonus to defense that a spacecraft may have from movement. Bombs, Proximity mines, and Cloaker mines detonate only once, being destroyed by their own explosion. Pulse Mines can detonate multiple times, but only once per round. A spacecraft can attempt to navigate a minefield without triggering the mines within it. A square can only contain one minefield. Attempting to lay multiple minefields in a single square causes all of the mines to detonate, destroying the minefiled entirely.

Detecting and Avoiding Minefields

Minefields are usually detected when the mines detonate. Often, this is too late. Mines can be detected early with the Active Sensors action and a TN20 technology use check for Proximity or Pulse mines, or a TN 30 check for Cloaker mines. A spacecraft can attempt to navigate a minefield without taking damage with a TN20 pilot check, or TN 30 for cloaker mines. A spacecraft can use the point defense or screen actions to gain a bonus on this check, and if successful they also destroy the minefield. Spacecraft larger than Medium size are simply too large to pass through a minefield safely without using the Point Defense or Screen actions to destroy the mines in their path.

Spacecraft Conditions Summary

Disabled

A disabled spacecraft has taken damage in excess of its hull points, having 0 HP or less, or has had it's Usable Energy (UEG) reduced to 0 by Ion Damage. While disabled a spacecraft fails all pilot checks, and the only actions the spacecraft can take are Emergency Response and the use of Escape Pods and Escape Vessels.

Destroyed

A destroyed spacecraft has taken damage in excess of 300% of it's hull points. Destroyed spacecraft may explode catastrophically, likely damaging nearby spacecraft. Those that don't explode often break apart into debris fields, their structures having taken too much damage to remain in one piece.

D%	Spacecraft Destruction Outcomes
1-25	The spacecraft's power core has destabilized. At the end of the round the Spacecraft explodes, dealing plasma/concussive damage to adjacent spacecraft based on size. (small or smaller: None, Medium or larger: 8d8+4d8 per size larger than Medium)
26-75	The spacecraft's structural integrity has been compromised. At the end of the round, the Spacecraft breaks apart into a debris field, which occupies the same space the spacecraft did.
76-00	The spacecraft is destroyed while barely remaining in a single piece, but is far too damaged to be repaired. Attempting to move a spacecraft in this state, by a coupler or other means, causes it to break apart into a debris field.

Table 94: Spacecraft Destruction Outcomes

Component Crippled

This condition is typically caused by a sub-targeted strike. The effects of this condition depend on which component of the spacecraft was hit. A crippled component requires the Emergency Response action and a TN 15 skill check to repair. The type of skill check depends on the component in question. If a component is crippled a second time, the component becomes disabled.

- **Engines Crippled** The spacecraft's engines are only minimally functional. Their MOV is reduced by 2 or to 0, whichever is lower, and they must spend 2 CP for every 1Δ they want to move. A spacecraft with crippled engines cannot use the engine boost action and can not benefit from upgrades that increase their speed like Afterburners or Race Tuning. Engines require a Craft (Mechanical) check to repair.
- **Dock Crippled** The spacecraft's dock is damaged. It must spend an additional 3CP to deploy strike craft, and any squadrons it deploys have half of their normal HP. Docks require a Craft (Structural) check to repair. Docked spacecraft are unaffected.
- **Shields Crippled** The spacecraft's shields lose half of their maximum soak capacity, and if their soak is reduced to 0, the time before they can be recharged is extended by one round. Shields require a Craft (Electronics) check to repair.

- **Sensors Crippled** The spacecraft takes a -10 penalty to technology use checks when attempting to locate objects or stealth-using spacecraft, and target locks take an additional round to acquire. Sensors require a Craft (Electronics) check to repair.

- **Power Core Crippled** The spacecraft's Power Production (PWR) is reduced by 25%. This reduces their maximum Usable Energy (UEG) and their Energy Regeneration (RGN) according to the normal calculations. If a spacecraft's Power Drain (DRN) is equal or greater than their reduced Power Production (PWR), then they are Drained. This affects only one power core, if a spacecraft has multiple. Power Cores require a Craft (Structural) check to repair.

Component Disabled

This condition is typically caused by multiple sub-targeted strikes against a single component, and it is a more severe form of the Component Crippled condition. A disabled component component requires the Emergency Response action and a TN 20 skill check of the same type as a crippled component to repair. Success reduces the condition to Component Crippled, and succeeding by 5 or more removes the condition entirely.

- **Engines Disabled** The spacecraft's engines are non-functional. It can't take the Thrusters or Engine Boost actions, but it's still capable of adjusting it's orientation.

- **Dock Disabled** A spacecraft with it's dock disabled is entirely unable to launch strike craft, and no craft are able to enter the dock. Any spacecraft inside the dock need to spend four additional CP in order to leave it.

- **Shields Disabled** A spacecraft with it's shields disabled has it's shield's capacity to soak reduced to 0, and their shields can't be raised again until the condition is removed.

- **Sensors Disabled** A spacecraft with it's sensors disabled is relegated to visual targeting only. It can't take the active sensors action, and all target locks it has are broken, and any medium sized or smaller spacecraft that is 5Δ or more has total concealment. Spacecraft that are larger than medium size are still able to be targeted visually out to a range of 20Δ, but beyond that, all spacecraft have total concealment.

- **Power Core Disabled** A spacecraft with it's power core disabled has it's Power Production (PWR) reduced by 25%, and it is Drained. If a spacecraft with a disabled power core uses all of it's Usable Energy (UEG), that spacecraft is Disabled until it's power core is repaired.

Casualties

Some of the spacecraft's crew have been injured or killed. There are four levels of casualties, with progressively steeper penalties to the spacecraft. Spacecraft that don't have a crew are immune to casualties. A Spacecraft with a crew, but which can be controlled entirely by an Artificial Intelligence can still be affected by casualty conditions, but can ignore their penalties in combat.

Light Casualties Light Casualties include scrapes, minor cuts, bruises, 1st degree burns, and other injuries that are painful but not debilitating. Spacecraft with Light Casualties have a -2 penalty on skill checks and attack rolls performed by crew. Light Casualties can be removed with the Emergency Response action and a TN 10 Treat Injury check.

Moderate Casualties Moderate Casualties include deep cuts, fractured bones, 2nd degree burns and other injuries that require prompt medical attention. Spacecraft with Moderate Casualties have a -4 penalty on skill checks and attack rolls performed by crew and a -2 penalty to the spacecraft's CP. Moderate Casualties can be reduced to light casualties with the Emergency Response action and a TN 15 Treat Injury check. Remove the Casualties condition if the check result exceeds the TN by 5 or more.

Heavy Casualties Heavy Casualties include internal bleeding, broken bones, crushed limbs, 3rd degree burns, and other injuries that are life threatening, requiring immediate medical assistance. Spacecraft suffering from heavy casualties have have a -8 penalty on skill checks and attack rolls by crew, and their combat points halved, to a minimum of 8. Heavy Casualties can be reduced to Moderate casualties with the Emergency Response action and a TN 20 Treat Injury check. Reduce the casualty level by a further 1 for every 5 by which your result exceeds the TN. (I.E from Moderate, to Light, or No Casualties.)

Severe Casualties Severe Casualties include multiple organ damage, head trauma, amputations, plasma burns, and other deadly injuries that will likely be life-altering even if medical aid is provided immediately. A spacecraft with severe casualties is overwhelmed, with many essential parts of the craft under-manned or not manned at all. A spacecraft suffering from severe casualties can't take any actions, except for a single Emergency Response per turn. Severe Casualties can be reduced to heavy casualties with the Emergency Response action and a TN 25 Treat Injury check. Reduce the casualty level by a further 1 for every 5 by which your result exceeds the TN. (I.E from Heavy to Moderate, Light, or No Casualties.)

Stacking Casualty Levels Casualties levels can stack. If a spacecraft with casualties takes casualties again, its casualty level increases to that level or, if already at that level, to the next higher one. E.g if a spacecraft takes light casualties and then takes light casualties again it's casualty level will increase to Moderate. However, if the spacecraft already had Moderate Casualties, then taking more light casualties won't affect them further.

Drained

The spacecraft doesn't have enough power to run all of it's system's properly. A drained Spacecraft doesn't gain Usable energy (UEG) each round, has a -4 penalty to attack rolls, skill checks, and defense, and if it's Movement Score (MOV) is positive, it's reduced to 0. Drained normally lasts 1 round each time it's applied. If a drained spacecraft is Drained again, add the duration to the total duration the spacecraft is drained for.

Breached

The space craft has one or more holes in it's hull, exposing parts of it's interior to space. Breached locations can't be used and any vital controls in that section will have to be rerouted to another location, which may be less than ideal. Hull breaches can stack. Each time the Breached condition is applied, the spacecraft gains another hull breach. A spacecraft's cost for all actions is increased by 1 CP for each hull breach, to a maximum cost equal to the spacecraft's maximum CP. Breaches can be patched with the Emergency Response action and a TN 20 Craft (Structural) check. This patches one hull breach, plus an additional hull breach for every 5 by which the check result exceeds the TN.

Fire

There's a fire inside the spacecraft! Fires on a spacecraft can be extremely dangerous, spreading quickly and burning hot. Each time the Fire condition is applied, the spacecraft gains a fire. At the end of it's turn, a spacecraft takes 1d8 fire damage for each fire it has. Fires can be suppressed with the Emergency Response action and a Technology Use or Athletics check. A TN15 check will extinguishes one fire, with an additional fire extinguished for every 5 by which the check exceeds the TN.

Reeling

A spacecraft that is sent reeling has had it's trajectory disrupted by something, such as a collision or concussive attack. A spacecraft that is Reeling can't control it's trajectory properly. Any attempts to move result in traveling in a random direction, determined by rolling a 1d8. Additionally, attack rolls have a -4 penalty. Reeling can be corrected with the Emergency Response action, using a TN 15 Pilot Check.

Ablated

An ablated spacecraft has had its armor plating loosened, cracked, or otherwise degraded in effectiveness. Armor weak points can stack. Each time the Ablated condition is applied, the spacecraft's Hardness is lowered by 1. A spacecraft can have no more weak points than its initial Hardness value. Ablated weak points can be mitigated with the Emergency Response action and a TN 20 Craft (Structural) check. This repairs one weak point, plus an additional weak point for every 1 by which the check result exceeds the TN.

Harpooned

A spacecraft that is Harpooned has had it's movement restricted by a harpoon attached to a cable controlled by another spacecraft. Harpooned spacecraft lose any movement bonus to defense and their movement is restricted by the length of the cable. Harpoons can be cut individually with the Emergency Response action and a TN 15 Craft (Structural) check. Success removes one harpoon, plus one additional harpoon for every 5 by which the result exceeds the TN. Alternatively, a spacecraft can attempt to break free from all of the harpoons at once using their engines. Doings so requires a TN 15 Pilot check. This TN increases by 3 for each harpoon stuck in a spacecraft's hull, and is decreased by 5 for every size larger the spacecraft is than the one harpooning it. Success removes the harpooned condition, but deals 1d6 damage per harpoon, ignoring hardness.

Demoralized

The crew of a spacecraft are questioning the Officers' competence or authority, and are reluctant to follow instructions. CP costs of all actions are increased by 2. Morale can be improved with the Emergency Response action and a TN15 Presence check.

Mutiny

The crew of a space craft are attempting to overthrow the spacecraft's officers. A spacecraft undergoing mutiny has the CP cost for all actions increased by 4, and a -4 penalty on attack rolls, defense, and pilot checks. A spacecraft undergoing a mutiny can't perform attack rolls or skill checks with Crew Modifiers. A Mutiny can be suppressed peacefully with the Emergency Response action and a Presence or Intimidate check, which is opposed by the spacecraft's crew skill modifier. Alternatively, a mutiny can be suppressed with violence. When violently suppressing a mutiny, an Officer may use their Attack Bonus in place of their skill modifier and they receive a bonus on their skill check, but if successful will inflict a level of casualties on the spacecraft. An officer receives a +5 bonus if they're willing to inflict light casualties, a +10 bonus if they're willing to inflict moderate casualties, and a +20 bonus if they're willing to inflict heavy casualties. A spacecraft whose officers are unable or unwilling to suppress a mutiny may find themselves in precarious position in their own ship.

Purchasing Spacecraft

Spacecraft are tremendously expensive to own, operate, and maintain. Likewise, the profits from operating spacecraft can be vast. Because of the scales involved, purchasing a spacecraft with wealth points isn't feasible. Instead, there will be a separate resource called Capital.

Capital

Unlike Wealth Points, Capital doesn't represent some fixed amount of currency. Instead, it represents resources, supply lines, connections, and business deals. Capital is always tied to some organization, such as the party of PCs, a spacecraft's crew, a gang of pirates, or even a government or corporation. Capital comes in several forms, being either Hard or Liquid and Personal or External.

Personal Capital

Personal Capital is intrinsic to Player Characters. Player Characters will always have their Personal Capital. Personal Capital is equal to **(5 × (Character Level+1)) + CHA Score**. For a party of PCs, their first spacecraft will likely cost the sum of their Personal Capital. As well, even if a party fails repeatedly, they'll always be able to start over, using their personal capital.

External Capital

External Capital is all other sources of capital. Typically, External Capital will be gained from adventures, similarly to wealth points or experience points.

Hard & Liquid Capital

Liquid Capital, either Personal or External, is capital that hasn't been spent, and is available for use. For example, Liquid Capital spent to acquire a spacecraft becomes Hard Capital. Likewise, at any time the spacecraft or it's components could be sold or traded away. In doing so, the Hard Capital is liquidated, and becomes liquid capital that can be spent on something else.

Lost Capital

Things don't always go as planned. Sometimes an organization will find that their hard capital isn't where it should be. Maybe their spacecraft was stolen, or even blown up. In cases like this, they can't simply liquidate what they don't have. However, the sudden loss of large amounts of capital can be avoided! The first option would be to reverse whatever circumstances that caused the loss of capital (i.e. recovering a stolen space spacecraft), but this is sometimes impossible. You can't simply unexplode your battleship. In cases like this, the loss will have to be written off. When writing off a loss of hard capital, the organization regains any loss of Personal Capital in full as Liquid Capital, but only gains half of any loss of External Capital.

Capital Maintenance

Hard Capital represents physical objects that need to be maintained, repaired, and replenished with consumable resources. When an organization purchases Hard Capital, they've already made the arrangements for that capital's continual maintenance. However, if an organization acquires Hard Capital through other means, such as by capturing a defeated enemy's spacecraft, then they'll likely be unable to maintain it properly. They're free to use such assets as they please, but won't be able to replenish it's resources in the way they would with their own Hard Capital.

Capital & Restriction Rating

Things purchased with Wealth Points in Ops and Tactics have a Restriction Rating from None to Illegal, which relegates certain items to the subset of player characters which are wealthy and/or skilled in bureaucracy. These are exactly the sort of connections and deals that are part of what Capital represents. When purchasing things with Capital, rules involving restriction rating don't apply. Anything so purchased has had all of these considerations already accounted for. As such, none of the spacecraft, components, or weapons presented here have a restriction rating listed.

Spacecraft Components

Standard Spacecraft Components

All spacecraft have the following components. These represent standard minimum systems available on all spacecraft.

Computer System

All spacecraft have a computer system capable of running standard software modules. The spacecraft's computer has 6 RAM and 32 storage. A spacecraft's computer can be upgraded with additional RAM and Storage using WP, accepting up to 30 RAM upgrades and 10 storage upgrades. Software Modules installed on a spacecraft's computer can be used by Officers and Crew when making skill checks on a spacecraft.

Navigation

All spacecraft have standard navigation systems. The standard navigation system allows a spacecraft to plot and follow routes between planetary bodies at sublight speeds.

Communications

All spacecraft have a standard communication system that transmits information between spacecraft or other locations using Radio or Lasers. Radio is omni-directional and can be received by all spacecraft in the vicinity, but radio communications may be jammed in combat. Laser communications are point to point, being received by only one recipient and can not be jammed, but require line of sight and are limited to a range of 6Δ. Standard communications are end-to-end encrypted, but a malicious third party might be able to break the encryption of standard communications. Spacecraft communication systems can transmit Audio, Video, or Data. Data can be transferred at a rate of 10 storage per spacecraft round.

Sensors

All spacecraft have standard sensor packages incorporating active (Radar, Lidar) and passive (Infrared, Visual) sensors. The active sensors are used for identifying and tracking the precise positions and velocities of objects, and for acquiring and maintaining target locks used for guided weapon systems. The passive sensors are used for establishing the presence and rough positions of objects in the vicinity. Visual sensors in particular tend to have a limited resolution, and so are more useful for detecting large, cold, objects at shorter ranges, such as asteroids or nearby spacecraft using silent running. Using standard passive sensors a spacecraft can automatically tell the size and positions of all nearby spacecraft that are not using stealth, and when using active sensors, they can determine a spacecraft's power core and engine ratings, and they can maintain up to two simultaneous target locks on different targets.

Escape Pods

All spacecraft include some form of escape pods, typically stored internally, or built into the cockpits of some smaller ships. A spacecraft that is destroyed automatically ejects it's escape pods, allowing the officers and crew a chance to escape certain doom, though they may still face uncertain doom. Escape pods are insignificant in spacecraft scale, and are designed to be cold in space, with all of their life support and power coming from pre-filled tanks and batteries. Escape Pods are too small to be targeted by spacecraft attacks and are quite sturdy, capable of surviving atmospheric re-entry and landing. Escape pods also have buoyancy devices, allowing them to float in water. Escape pods also include a tracking beacon to allow for easier recovery, but the beacon can be disabled by the pod's occupant. Locating an escape pod without a beacon requires at least an hour in open space, but may take days or more if the pod is lost among a debris or asteroid field. A typical escape pod contains 200 NV of food(Usually in the form of sealed "food blocks" of 1 NV per block) and 50 Gallons of water per occupant, and enough breathable oxygen that their occupants

typically die of starvation, dehydration, or injuries sustained when their spacecraft was destroyed long before they would suffocate.

Boarding Tube

This device consists of two rigid airlock door frames connected by a very long flexible tube. The tube is typically made of a strong flexible polymer supported by metal cables and banding along it's length. One side of the tube is permanently attached to a spacecraft, while the other can be folded up, taking up almost no space, or extended. When extended, a boarding tube can securely attach to another spacecraft using specialized mounts, strong electromagnets, or special impermanent adhesives. A boarding tube allows creatures and objects to move between two adjacent spacecraft. Generally, it is only possible to attach a boarding tube to a spacecraft that is either willing, or disabled.

Hull

The hull is the airtight sealing for the spacecraft, used to keep a safe pressure and to keep air within the crew and passenger area. The hull is also responsible for radiation shielding.

Base Spacecraft Statistics

Hull Size The size of a spacecraft's hull in spacecraft scale, used on a battle map.

Absolute Size The size of the craft, using absolute measurements.

Body Points(BP) The number of Body Points the hull has. Larger hulls have more body points and can have more components.

Defense (DEF) The base Defense of a spacecraft. Smaller spacecraft are harder to hit.

Movement Score (MOV) The base Movement score of a spacecraft. Smaller spacecraft are faster.

Pilot Bonus (PLT) The base Pilot bonus of a spacecraft. Smaller spacecraft are more maneuverable.

Hardness (HRD) The base hardness of a spacecraft's hull. Larger spacecraft are more resistant to damage.

Hull Points (HP) The Hull Points of a spacecraft. Larger spacecraft can take more damage before being disabled or destroyed.

Initiative (INIT) The initiative score of the spacecraft's hull. This number is combined with any engines or other components when a ship rolls it's initiative.

Combat Points (CP) Combat Points. Smaller spacecraft have more combat points.

Collision The base collision damage of a spacecraft. This is used to determine how much damage is dealt by the spacecraft when it collides with or rams into something.

Capital Cost (CAP) The capital cost of a spacecraft hull. Larger hulls are more expensive to purchase and maintain than smaller ones.

Hull Size	Absolute Size	BP	DEF	MOV	PLT	HRD	HP	INIT	CP	Collision	CAP
Fine	9	15	14	4	+8	2	20	+3	18	1d10	1
Diminutive	10	20	13	3	+4	4	35	+2	18	1d10	3
Tiny	11	25	12	3	+2	6	50	+1	17	2d10	7
Small	12	35	11	2	+1	8	75	+1	17	3d10	15
Medium	13	50	10	2	0	10	100	+0	16	4d10	20
Large	14	75	9	1	–1	12	150	–1	16	6d10	40
Huge	15	100	8	1	–2	16	200	–1	15	8d10	60
Gargantuan	16	150	7	0	–4	20	250	–2	15	10d10	90
Colossal	17	200	6	0	–8	24	300	–3	14	12d10	120

Table 95: Base spacecraft statistics per size

Mastercraft Spacecraft Hull

Typically built to exacting tolerances, and made from large quantities of advanced materials, a mastercraft spacecraft hull has been re-engineered from the ground up to out-perform others of comparable size.

Hull Upgrade	BP	DEF	MOV	Pilot	HRD	CAP
Mastercraft	+5% (+5 minimum)	+1	+1	+2	+1	+100% (Minimum +10)
Grandmastercraft	+10% (+10 minimum)	+1	+2	+4	+2	+200% (Minimum +25)
Ultramastercraft	+15% (+15 minimum)	+2	+4	+6	+4	+300% (Minimum +50)

Table 96: Mastercraft Spacecraft Hull

Hull Reinforcement

This upgrade reinforces a spacecraft's structure with additional materials, increasing a spacecraft's ability to sustain damage without being disabled. Hull reinforcement increases a spacecraft's HP by a flat amount first, then the listed percentage, rounded up to the nearest whole point. The listed Body Points and capital cost is for small or smaller spacecraft. Medium spacecraft will pay twice as much Body Points and capital, large spacecraft will pay ×3, Huge spacecraft will pay ×4, Gargantuan spacecraft will pay ×5, and Colossal spacecraft will pay ×6 the listed values. This upgrade may only be taken once per spacecraft, but can be removed or replaced with a different rating as circumstances permit.

Rating	HP Increase	HP Percentage Increase	BP	Capital
Light	8	10%	1	1
Medium	20	25%	3	2
Heavy	30	40%	5	4
Dense	50	70%	10	6

Table 97: Hull Reinforcement Rates

Hull Size	Capital Cost Increase
Small or Smaller	No Increase
Medium	100%
Large	200%
Huge	300%
Gargantuan	400%
Colossal	500%

Table 98: Hull Size Reinforcement Capital Cost Modifiers

Reinforced Prow

This upgrade toughens the front-most end of a spacecraft with ultra strong and dense materials, while relocating systems and components away. Colloquially referred to as a 'Spear', a Reinforced Prow is a weapon used when ramming other spacecraft. A spacecraft with a spear increases it's collision damage by 2 dice + 1 die per size category the spacecraft is above medium. A spacecraft's spear can also be braced against enemy ramming attacks, which can be done any time a spacecraft is rammed, so long as the spacecraft is aware of the other spacecraft that is about to ram it. This allows a spacecraft to use the spear's increased collision damage against a ship that is ramming it. Unfortunately, the added weight at the front of a spacecraft negatively affects it's balance, adding a –4 penalty to pilot checks. This upgrade costs 3 capital and 4 Body Points + 2 additional Body Points for every size the spacecraft is above Small. Mastercraft and Grandmastercraft spears exist, and add their mastercraft bonus on ramming attacks.

Upgrade Level	Bonus	CAP
Mastercraft	+1	+1
Grandmastercraft	+2	+4
Ultramastercraft	+3	+7

Table 99: Mastercraft Reinforced Prow Ratings

Hull Hardening

This upgrade heat treats and reinforces the exterior armor panels on the spacecraft, increasing the spacecraft's hull hardness by 1. This upgrade can be taken up to 10 times, and costs 1 Capital and 1 Body Point (BP) with an additional 1 Body Point (BP) per upgrade per size category the spacecraft is above medium.

Paint Job

This upgrade gives the spacecraft a brand new color, tint and hue. The spacecraft can be painted any color, or scheme the character wishes. It costs no Body Points or Capital

Power Core

The power core is how the spacecraft powers and sustains all of its various systems. Built from the same kind of fusion engines that power plasarms, lasarms, and elarms, these power cores are able to produce large amounts of usable energy to power both engines, as well as on-board systems. Without the power core, a spacecraft can not run its life support, its engines, or its basic navigational systems and makes the spacecraft little more than a floating house. Various ship components drain energy passively when they are installed, notated as Power Drain (DRN). Weapons and other systems consume Usable Energy (UEG) when activated or fired. The maximum amount of Usable Energy (UEG) a ship can have at once is equal to the sum of all of its power cores' Power Production (PWR). Every round a ship generates Usable Energy (UEG) equal to its Energy Regeneration (RGN), which is calculated by subtracting the total Power Drain (DRN) from the total Power Production (PWR). If a ship's Energy Regeneration (RGN) is at or below zero, it is considered Drained, and takes the Drained effect.

Power Core Statistics

Power Core The name of the power core's rating.

Body Points (BP) The Body Point cost to install the indicated power core.

Power Production (PWR) The amount of power the indicated power core generates.

Capital Cost (CAP) The capital cost of the indicated power core.

Power Core	BP	PWR	CAP
Very Weak	1	5	1
Weak	3	10	2
Moderate	5	20	4
Strong	7	35	7
Very Strong	10	50	10
Powerful	15	65	13
Very Powerful	20	80	16
Extremely Powerful	30	95	19
Violently Powerful	45	135	27

Table 100: Power Core Ratings

Mastercraft Power Core Upgrade

A Mastercraft power core doesn't have increased power output, but does generate an additional flat amount of Usable Energy (UEG) each round in combat. This is a modification of a single power core, and can be purchased when the power core is purchased, or upgraded at a later date.

Upgrade Level	RGN	CAP
Mastercraft	+5	+1
Grandmastercraft	+10	+4
Ultramastercraft	+15	+7

Table 101: Mastercraft Power Core Ratings

Additional Power Cores

A spacecraft can have multiple power cores, but require increasingly more equipment and machinery to maintain and cool them, thus additional power cores will use more body points than normal. To determine the Body Point (BP) cost of a spacecraft's power cores, start with the cost of the highest rated core. Then, multiply the cost of the second highest rated core by 1.5 rounded up, the next highest rated core by 2, and the costs of all others by 4.

Engines

The engine is how the spacecraft propels itself. Engines need to operate differently depending on whether they're for use in space, or within the atmosphere and gravity of a planet, and so engines can be classified as sub-light, atmospheric, or dual purpose. All spacecraft of medium size and below may have dual purpose engines for no additional cost, while larger spacecraft, which are not normally operated from planets, have to purchase the Dual Purpose Engine upgrade separately. A spacecraft can only have one engine rating, but this can be stylized as how the purchaser sees fit.

Engine Statistics

Engine The name of the engine's rating.

Body Points (BP) The number of Body Points it cost to install the indicated engine.

Power Drain (DRN) The amount of energy the engine uses when installed.

Initiative Modifier (INIT) The bonus given to the Initiative check.

Movement Score (MOV) This is the movement score for the engine. This is added to the movement score of the hull to get the final movement score, which can grant movement without spending Combat Points, or require Combat Points be spent before the ship can move.

Capital Cost (CAP) The capital cost of the engine.

Engine	BP	DRN	INIT	MOV	CAP
Very Weak	1	1	+1	–2	1
Weak	3	2	+2	–1	2
Moderate	5	3	+3	0	4
Strong	7	5	+4	+1	7
Very Strong	10	7	+5	+2	10
Powerful	15	10	+6	+3	13
Very Powerful	20	15	+7	+4	16
Extremely Powerful	25	25	+8	+5	19
Violently Powerful	30	40	+9	+6	27

Table 102: Engine Ratings

Mastercraft Engine Upgrade

Mastercrafted engines offer improved performance and thrust vectoring. The improved handling grants it's mastercraft bonus to the spacecraft's defense score. This is a modification of the current engine, and can be purchased when the engine is purchased, or upgraded at a later date.

Upgrade Level	Engine Upgrade	CAP
Mastercraft	+1	+1
Grandmastercraft	+2	+4
Ultramastercraft	+3	+7

Table 103: Mastercraft Engine Ratings

Dual Purpose Engines

This upgrade allows an engine that is normally sub-light or atmospheric only to operate in both environments. All spacecraft of medium or smaller size may take this upgrade at no additional capital or Body Points (BP) cost. Spacecraft that are Large or larger in size have to spend additional Body Points (BP) to compensate for their larger mass. Dual-purpose engines cost 50% more BP for ships Large or larger.

Engine Tuning

A spacecraft's engines can be tuned for for various results. Engine tuning kits are available in three common varieties, intended to accomplish different goals, and each of these are available at three levels: Basic, Standard, or Advanced. Basic tuning kits cost 1 capital and provide a tuning bonus of +1. Standard tuning kits cost 2 capital and provide a tuning bonus of +2. Advanced Tuning kits cost 3 capital and provide a tuning bonus of +4. An engine may only have one tuning at a time.

- **Race Tuning** A Racing Tuning kit greatly increases an engine's acceleration and responsiveness, but the additional heat can build up to dangerous levels, and thus racing tuning kits are designed to be modulated between off and full power. When the tuning kit is active, a spacecraft may receive a bonus to Movement Score (MOV) and/or initiative up to a maximum of it's tuning bonus. but at the end of any combat turn where the tuning was used, roll D %. If the result is less than or equal to the bonus received × 5, the spacecraft catches fire.
- **Efficient Tuning** An Efficient tuning kit can be generally useful for ships of all sizes, allowing them to save on power and weight, with negligible performance impact. An efficiently tuned engine uses the Body Point (BP) cost of an engine one rating lower, and it's Power Drain (DRN) is reduced by either the tuning bonus or the tuning bonus × 10%, whichever is greater.
- **Combat Tuning** A Combat tuning provides improved turn rates and maneuverability by enhancing the power of key maneuvering thrusters across the spacecraft. Increase the Engine's Power Drain (DRN) by the tuning bonus, and add the tuning bonus to the spacecraft's Pilot checks and Stealth checks. Additionally reduce the minimum distance a spacecraft needs to move in a combat turn before it begins to accrue a defense bonus by the engine's tuning bonus. For example a spacecraft with a standard combat tune will gain defense bonuses from movement after the first 2Δ it moves in a turn, receiving +1 DEF for every additional 1Δ it moves, up to +10 DEF, as normal.

Light Engine

A light engine gives a spacecraft the ability to plot courses and jump into lightspeed without use of a light gate. Light engines require large amounts of Usable Energy (UEG) to activate, and must be charged over multiple rounds, and the Light engine activates immediately upon becoming fully charged. A Light Engine requires 150 Usable Energy (UEG). While charging the spacecraft must not move, or else all Usable Energy (UEG) charged so far is wasted. Any spacecraft with a light engine must have the advanced navigation upgrade to use it. This upgrade costs 30 Body Points and 10 capital. Mastercrafted Light engines decrease the Usable Energy (UEG) required to use the engine by 10% per level of the mastercraft bonus.

Upgrade Level	Usable Energy Cost	CAP
Mastercraft	135	+1
Grandmastercraft	120	+4
Ultramastercraft	105	+7

Table 104: Mastercraft Light Engine Ratings

Faster Than Light Engine

An FTL engine, gives a spacecraft the ability to plot courses using wormholes, moving effectively faster than the speed of light. The engine generates a wormhole entrance and exit simultaneously, that starts on the location of the spacecraft and exits where the navigator chooses it to. FTL engines requires large amounts of Usable Energy (UEG) to activate, and must be charged over multiple rounds. The FTL engine activates immediately upon becoming fully charged. An FTL Engine requires 500 Usable Energy (UEG). While charging the spacecraft must not move, or else all Usable Energy (UEG) charged as of current is wasted. Any spacecraft with a FTL engine must have the advanced navigation upgrade to use it. FTL Engines cost 50 Body Points and 20 capital. Mastercrafted FTL engines decrease the UEG required to use the engine by 10% per level of the mastercraft bonus.

Upgrade Level	Usable Energy Cost	CAP
Mastercraft	450	+1
Grandmastercraft	400	+4
Ultramastercraft	350	+7

Table 105: Mastercraft FTL Engine Ratings

Afterburners

This upgrade fits the spacecraft with afterburners used by racers, fighters, and interceptors to gain a sudden boost of speed. A spacecraft can activate the afterburners any time during it's turn and when activated, allow a spacecraft to move at twice the speed for one round. They may move at a rate of 2Δ/1CP, and only need to spend CP to move after traveling twice their Movement Score (MOV) in Δ. Afterburners need to cool down after being used, and so can not be used in consecutive rounds. This upgrade costs 3 Capital and 1 Body Points (BP) plus 2 additional Body Points (BP) for every size the spacecraft is above Tiny.

Life Support

Life support encompasses various systems that turns carbon dioxide into breathable oxygen, manages comfortable pressure, temperature, and humidity levels. It also manages organic waste and in the case of large spacecraft, artificial gravity production. Each life support module adds 1 Power Drain (DRN), and costs 0 body points plus 1 body point for each Life Support component already installed in a spacecraft. The first Life Support modules costs 0 capital, with additional life support modules costing 1 capital each. Redundant Life Support can be useful if the first life support component is damaged, or if you wanted to maintain different environments on a single spacecraft, in order to better suit the preferences of different races.

Crew & Crew Quality

While not a component of the spacecraft per se, a spacecraft's crew is extremely important to it's general operation. While small and smaller spacecraft can potentially be piloted by a single person, a Crew is required to operate spacecraft of medium size or larger. Spacecraft controlled by NPCs always have a crew rating. Spacecraft smaller than medium may have a crew if the ability for the pilot to delegate certain tasks to a more skilled crew member is desirable. In these cases, the capital cost is the same as it would be for a medium ship.

Crew Quality Statistics

Quality The name of the quality rating.

Skill The crew's modifier to skill checks. Use this when the spacecraft makes a skill check, but no officers want to make the check themselves.

Attack The crew's modifier to attack rolls. Use this when the crew makes spacecraft attacks.

Size Capital Cost Each of these columns contains the cost to hire crew of a certain quality for a certain size of ship. For example, any spacecraft can be crewed by an untrained crew for 0 capital, while it costs 40 capital to crew a colossal spacecraft with an Ace crew.

Quality	Skill	Attack Bonus	Medium CAP Cost	Large CAP Cost	Huge CAP Cost	Gigantic CAP Cost	Colossal CAP Cost
Untrained	–4	–2	0	0	0	0	0
Normal	+8	+2	2	3	4	5	6
Skilled	+12	+4	6	9	12	15	18
Expert	+16	+6	10	14	18	22	26
Ace	+24	+10	20	25	30	35	40

Table 106: Crew Quality and Size Requirements

Crew Quarters & Sustenance

Spacecraft are always built with amenities to house it's crew & officers over potentially long voyages, even if on the smaller craft that might mean a tiny bunk to sleep in, bath facilities that everyone has to share, and a nutrient paste dispenser in place of a kitchen. Spacecraft also carry as much food and water as is necessary for their itinerary, and the cost of such supplies is paid for with the capital that was spent to purchase the spacecraft. Sudden changes of circumstance, detours, disasters, or other events may still leave a spacecraft without enough food on board.

Cargo Hold

This space can be used for storage, workshops, or additional passenger space and can be changed as the owners see fit. Cargo is measured in Tons (2000 lbs). Each Cargo Hold costs 1 BP and provides 4 tons of cargo space. There is no limit to how many cargo holds a spacecraft can have. When used as passenger space, a ton of cargo space can be configured to carry 10 people uncomfortably, 5 people in relative comfort, 3 people luxuriously, or 1 person lavishly.

Workshops

A Workshop is an area on a spacecraft dedicated to a certain task or function. Typically, they are related to the use of a particular skill, such as Craft (Electronics), or Treat Injury. A workshop allows a spacecraft's crew to make skill checks while benefiting from skill kits or other specialized tools, and are especially useful for longer journeys because they can provide access to services that would otherwise be out of reach in the expanse of space. The nature and purpose of workshops can vary, but generally they require one ton of cargo space, and they must be furnished with Kits related to their purpose. Any Kits must be purchased with Wealth Points, rather than capital. Workshops can only be used for one task at a time, so if one wishes to complete multiple similar tasks, they will need to be done in sequence or multiple workshops will need to be set up. Common examples of a workshop would be a Medical Bay or Operating room, a Forge, and an Enchanting Room.

Shields

Shields protect the spacecraft from plasma, laser, and ion weapons. If the damage exceeds the amount the damage the shield can soak, that shield is overloaded and the remaining damage then hits the spacecraft. Shields also require power to be maintained and take 1 turn to power on from an off state. If a shield is overloaded, then power must be routed to that shield to recharge it. A spacecraft may have as many shields as they have the Power Production (PWR) to run. When using multiple shields, they are combined and treated the same as if they were only a single shield. Use the sums of their Soak, Recharge, and Power Drain (DRN) to determine the characteristics of the spacecraft's combined shields. A spacecraft's shields will always be down for at least 1 round.

Shield The name of the shield's rating.

Soak The amount of damage a shield can take before it's overloaded.

Recharge The amount of soak a shield gets when using the charge shields actions.

Power Drain (DRN) The amount of energy the shield uses when installed.

Body Points (BP) The number of Body Points it cost to install the indicated shield.

Capital Cost (CAP) The capital cost of the shield.

Shields	Soak	Recharge	DRN	BP	CAP
Light	5	5	1	1	1
Medium	11	8	2	2	2
Heavy	20	12	4	4	3
Dense	45	12	6	9	4

Table 107: Shield Ratings

Recharging Shields

Shields can only soak so much damage before shutting down. To restore a spacecraft's capacity to soak, a character uses the Charge Shields action.

Shield Tuning

A spacecraft's shields can be modified to improve their performance in various ways, becoming more resilient, charging faster, or more efficient. A shield tuning bonus applies only once, as a spacecraft's shields are treated as a single unit. Shield tuning kits are available in three common varieties, intended to accomplish different goals, and each of these are available at three levels: Basic, Standard, or Advanced. Basic tuning kits cost 2 capital and provide a tuning bonus of +1. Standard tuning kits cost 4 capital and provide a tuning bonus of +2. Advanced Tuning kits cost 6 capital and provide a tuning bonus of +4. A Shield may only have one tuning at a time.

- **Soak Tuning** Adds additional capacitors to the shield system, increasing the shield's Soak by the tuning bonus × 10, but increasing it's Body Point (BP) cost by the tuning bonus.
- **Recharge Tuning** This tuning increases a shield's Recharge value by the tuning bonus × Power Drain (DRN), but when using the Recharge Shields action, a spacecraft has to spend additional Usable Energy (UEG), equal to the tuning bonus × Power Drain (DRN), to charge their shields.
- **Efficiency Tuning** This tuning decreases a shield's BP and Power Drain (DRN) costs by the tuning bonus, to a minimum of 1.

Mastercrafted Shields

Mastercrafted shields are particularly resillient thanks to incorporating similar technology and techniques as Emergency Plasma Systems, which can deflect attacks rather than soaking them directly. A spacecraft with mastercrafted shields gains a bonus to defense against Plasma attacks equal to the mastercraft bonus + 1 and half that bonus (rounded down) against Ion attacks. Because a spacecraft using multiple shields has their shields combined into a single unit, a spacecraft only needs to pay for mastercrafted shields a single time, regardless of how many individual shields it has.

Upgrade Level	DEF	CAP
Mastercraft	+2	+1
Grandmastercraft	+3	+4
Ultramastercraft	+4	+7

Table 108: Mastercraft Shields Ratings

Couplers

A coupler is a device mounted to the exterior of a spacecraft that will securely join to another coupler, for towing, moving, and transporting other craft through space. When towing a spacecraft, the towing spacecraft's Movement Score (MOV) is decreased by one for every size category larger the craft being towed is. If this reduces the spacecraft's Movement Score (MOV) to -1 or less, the coupled spacecraft is too large for the spacecraft to tow. A spacecraft can only tow a single craft that is one size larger than itself at a time. When coupling to multiple craft that are of equal or lower size, a spacecraft may couple to as many can fit in it's adjacent non-diagonal squares. This upgrade is full set of couplers, allowing a spacecraft to tow as many objects as it's size and engines allow. It costs 2 Body Points.

Docks

A Dock is an internal compartment that allows for the maintenance, storage, and deployment of other spacecraft. When a spacecraft is docked it is defended by the spacecraft it is docked with, can not be attacked, and any damage or attack that is fired at this spacecraft while it is docked is deferred to the larger spacecraft it is docked in. While docked a spacecraft can not use any of its weapons, engines, or shields. A spacecraft can not dock another spacecraft that is equal or larger in size than itself. A spacecraft with a dock can provide standard repair services to other spacecraft that are docked in them. A diminutive or fine craft uses 1 capacity, a tiny craft uses 2, a small craft uses 4, a medium craft uses 16, and a large craft uses 32.

Size The size of the dock.

Body Points (BP) The number of Body Points it cost to install the indicated dock.

Power Drain (DRN) The amount of energy the dock uses when installed.

Capital Cost (CAP) The capital cost of the dock.

Capacity The amount of capacity the dock has.

Size	BP	DRN	CAP	Capacity
Small	4	2	1	4
Medium	8	4	3	12
Large	12	6	5	24
Huge	18	8	7	48

Table 109: Dock Sizes

Nested Docking

It may occur that a spacecraft docked inside of another one may have yet another dock of it's own containing yet more spacecraft. In such cases, all craft inside all docks count against the docking capacity of the outermost spacecraft's dock. For example, a Large spacecraft with a Large Dock has a Medium Spacecraft docked, and that medium spacecraft has a small dock with a Small spacecraft inside it. In such a case, the L[illegible] the Medium and the Small spacecraft for the capacity of it's Large Dock, and so would have 20 out of 24 of it's capacity filled.

https://thunderstore.io/c/h3vr/p/NGA/GachaProgression/

Utility & Strike Craft

Some kinds of spacecraft aren't intended to be operated independently, usually lacking some essential part for interstellar travel, whether that's storage, propulsion, or even life support. Spacecraft in these categories are considered disposable assets and, like ammunition, are replenished as they're used up, destroyed, etc. Because of their simplified nature, Utility and Strike Craft are not subject to critical strikes, collisions, or the conditions that affect spacecraft.

Pod Harness

This upgrade fits a spacecraft with a Pod Harness with four slots. Pod Harnesses are used to carry certain kinds of utility and strike craft. It uses one Body Point and costs 1 Capital.

Size	Slot Used
Drop Pod	1
Drone	1
Fine Repair Pod	1
Diminutive Repair Pod	2
Tiny Repair Pod	4

Table 110: Pod Harness

Utility Craft

Utility Craft are supplemental craft intended to perform certain niche tasks for their mothership. Utility craft that are reduced to 0 HP or less usually have varying effects.

Freight Cars

Freight cars are varyingly sized 'craft' which serve as external cargo holds. Unable to move under their own power, freight cars have to be attached to a spacecraft via couplers. It's not uncommon to see large numbers of freight cars attached to dedicated transport craft. Freight cars can carry a range of cargo loads, from as little as 1 ton to as much as 175 tons. Freight cars reduced to 0 HP or less are breached, spilling their cargo into space. While an external freight car can often hold significantly more cargo than a spacecraft's cargo hold, it is not as readily accessible, nor is it as versatile in function. A spacecraft's weapons can not access any ammunition that may be stored in a freight car, nor can a freight car's storage space be converted into passenger space or workshops, as those would require power and life support that the freight car does not possess.

Disposable Booster

This utility craft is a powerful 2-stage rocket engine. It can be attached to another spacecraft or object, either with or without a coupler. A disposable booster has many uses. It can be used to transport large objects, ranging from freight cars, to asteroids, around a star system, with the first stage being used to accelerate [illegible] the second stage being used to slow it down when it gets there. A disposable booster can also be used to lift a spacecraft off the surface of a planet, even if it's disabled from a crash or lacking atmospheric engines of it's own. Finally, a disposable booster can be used to gain a significant boost of speed in combat. A spacecraft that activates a coupled disposable booster (with the deploy utility craft action) gains a +6 bonus to their MOV for 1d4+2 rounds. A disposable rocket engine that is attached to an object or spacecraft without a coupler deals 1d10 damage to it when it's fired, with HRD applying as normal and attaching it in such a way takes 1 hour of work and a TN 20 Craft (Structural) check. When used to move objects across a star system, the rocket engine needs to have a route plotted and programmed into it by a spacecraft's navigational computer.

Drop Pods

A drop pod is primarily used to transport passengers and a small amount of cargo from a sublight craft to and from a planet. Due to their use, they are not able to be steered, and can only launch from a craft to a planet, and from a planet back up out of the atmosphere, where they can be picked up. Capable of landing or launching safely from solid ground or bodies of water they are often used as emergency life boats for smaller craft. Drop Pods attach to and are deployed from a spacecraft's pod harness. Drop Pods come in Civilian and Military varieties. Civilian Drop Pods have 16 Defense and 5 Hull Points. Military Drop Pods function identically, but have HRD 5, 15 Shields, and Gun ports that can be opened when the pod has landed to allow the occupants to fire personal weapons from the inside with 9/10ths cover. Drop pods reduced to 0 HP or less are effectively bulkier escape pods, with all the active components allowing them to launch from a planet being non-functional.

Repair Pods

A Repair Pod is a kind of specialized drone that will automatically repair the craft that launches it, or any spacecraft within the pod's range. Repair Pods attach to and are deployed from a spacecraft's pod harness. When deployed, a repair pod will repair a certain amount of HP each round for 10 rounds, upon which it's supplies are depleted and it needs to return to it's mothership in order to restock. A fine repair pod has a range of 1, 9 defense, 6 HP, and restores 1d4 HP for 10 rounds with 1 ton of supplies. A Diminutive repair pod has a range of 2, 6 Defense, 18 HP, and restores 2d6 HP for 10 rounds with 2 tons of supplies. A Tiny repair pod has a range of 3, 3 Defense, 32 HP, and restores 3d8 HP for 10 rounds with 4 tons of supplies. Repair Pods reduced to 0 HP or less are destroyed, unable to be used until they're replaced.

Escape Vessel

An escape vessel is a small craft intended for emergency escapes, and they can be deployed manually by the flight controller, or automatically at the same time as a spacecraft's escape pods. Propelled by powerful rocket engines that account for most of it's bulk, escape vessels easily elude most pursuers through speed alone, even being capable of outrunning missiles and torpedos. Escape Vessels can be deployed from couplers or docks. When deployed, an escape vessel immediately starts it's engines and sets a course to a destination. Typically, this destination is pre-programmed to a known safe location. Escape Vessels have similar supply stores as escape pods, but usually can carry many more passengers. Most of the time, they're designed to escape with a spacecraft's entire crew, though conditions may be very cramped. Other kinds of escape vessels exist, being equipped with Light or FTL engines instead of rockets, but these engines are special and many sacrifices had to be made to fit them into this role. First, they're charged in advance, activating at the start of the spacecraft's next turn. Second, they're self destructing. Their components simply can't handle being used more than once. Third, they're expensive. Because an escape vessel is usually used when a spacecraft is destroyed, they add a large amount to how much capital is lost. If an escape vessel is disabled before the start of the spacecraft's next turn it stops, unable to continue escaping and behaving like an escape pod.

Name The name of the utility craft.

Capital Cost (CAP) The capital cost of the utility craft. Numbers with colons notate how many can be purchased for a single Capital.

Size The size of the craft, using standard measurements.

Absolute Size(Abs. Size) The size of the craft, using absolute measurements.

Notes Miscellaneous notes for the specific utility craft mentioned.

Name	CAP	DEF	HP	Size	Abs. Size	Notes
Personal Freight Car	8:1	14	5	F	9	Capacity: 1 Ton
Micro Freight Car	4:1	12	10	D	10	Capacity: 10 Ton
Mini Freight Car	2:1	10	15	T	11	Capacity: 25 Ton
Light Freight Car	1	8	20	S	12	Capacity: 75 Tons
Heavy Freight Car	2	6	25	M	13	Capacity: 175 Tons
Disposable Booster	4:1	–	–	S	12	–
Civilian Drop Pod	8:1	16	5	F	9	–
Military Drop Pod	4:1	16	5	F	9	5 HRD; 15 Shields; Gun ports
Fine Repair Pod	2:1	9	6	F	9	Range:1; Repair 1d4 over 10 rounds; 1 ton of repair supplies;
Diminutive Repair Pod	1	6	18	D	10	Range:2; Repair 2d6 over 10 rounds; 2 ton of repair supplies;
Tiny Repair Pod	1	3	32	T	11	Range:3; Repair 3d8 over 10 rounds; 4 ton of repair supplies;
Escape Vessel, Rocket	1	22	40	S	12	–
Escape Vessel, Light	5	22	40	S	12	–
Escape Vessel, FTL	10	22	40	S	12	–

Table 111: Utility Craft

Strike Craft

Strike Craft are small craft only intended for short range short duration combat. Due to their simplified statistics and lack of customization, strike craft aren't suited for direct control by player characters. If a player is interested in piloting a spacecraft analogous to a fighter, then it is recommended that they purchase a fine, diminutive, or tiny spacecraft with capital and customize it to their liking. A Strike Craft can be purchased with one of several weapons. These determine the craft's damage type, critical range, and critical condition. The damage they deal is based on their classification.

Drones

Drones are usually piloted and manned by an AI instead of a person. They do have amenities to support life, but their primary use is to be sent out by larger spacecraft as a cheap form of wave attacks. Drones attach to and are deployed from a spacecraft's

pod harness. Drones can be equipped with Guns (Ballistic,16-18, L. Casualties) or Plasmas (Plasma,14-18, Fire)

Fighters

Fighters are the usual base for various fighter squadrons, boasting good speed, and moderate armor. Fighters can be equipped with Guns (Ballistic,16-18, L. Casualties) or Plasmas (Plasma,14-18, Fire)

Interceptors

Interceptors are nimble craft primarily built for scrambling and sudden rapid engagement. Each interceptor counts as 2 for it's squadron when their squadron is directed to defend or screen. This only applies to calculating the defense against projectiles or the penalties to enemy actions based on squadron size. Interceptors can be equipped with Lasers (Plasma, 13-18, Fire), or Missiles (Concussion, 16-18, M. Casualties)

Attackers

Attackers are very heavily armored craft, primarily used to deliver bombs and heavy ordinance against larger spacecraft. Attackers deal an additional die of damage when attacking spacecraft of medium or larger sizes. Attackers can be equipped with Cannons (Ballistic, 15-18, Reeling) or Bombs (Concussion, 16-18, M. Casualties)

Strike Craft Statistics

Damage The base damage a strike craft deals.

Hull Points (HP) How many hull points a strike craft has. A squadrons HP is pooled from all it's members.

Defense (DEF) The defense score of a strike craft determines how difficult it is for an enemy to hit.

Size A squadron of strike craft always occupies one square, but their size determines how many can be stored in a dock.

Speed Speed determines how many deltas a strike craft or squadron can travel in one round.

Weapons Strike craft can be equipped with varying weapon loadouts. When purchasing a strike craft, choose one specific weapon to arm them with.

Capital Cost (CAP) The capital cost of the strike craft. Numbers with colons notate how many can be purchased for a single Capital, expressed as a ratio. 4:1 means "4 craft for 1 capital", while 1:1 means "1 craft for 1 capital".

Strike Craft Class	Damage	HP	DEF	Size	Speed	Weapons	CAP
Drone	1d3	4	16	F	10Δ	Guns or Plasmas	8:1
Light Fighter	1d4	9	12	D	12Δ	Guns or Plasmas	4:1
Heavy Fighter	1d6	12	10	T	12Δ	Guns or Plasmas	2:1
Light Interceptor	1d4+2	7	14	D	16Δ	Lasers or Missiles	3:1
Heavy Interceptor	1d6+2	10	12	T	14Δ	Lasers or Missiles	3:2
Light Attacker	1d8	20	10	T	8Δ	Cannons or Bombs	2:1
Heavy Attacker	1d10	32	9	S	8Δ	Cannons or Bombs	1:1

Table 112: Strike Craft

Strike Craft Weapons	Type	Critical	Critical Condition
Guns	Ballistic	16-18	L. Casualties
Cannons	Ballistic	15-18	Reeling
Plasmas	Plasma	14-18	Fire
Lasers	Plasma	13-18	Fire
Missiles	Concussion	16-18	M. Casualties
Bombs	Concussion	16-18	M. Casualties

Table 113: Strike Craft Weapons

Spacecraft Weapons

Weapons are an essential tool for any spacecraft. They serve both offensive and defensive purposes, from directly attacking enemy spacecraft, to shooting down dangerous projectiles like missiles, and allowing a spacecraft to clear a safe path through hazards like minefields or asteroid fields.

Weapon Batteries

Often a spacecraft will mount multiple weapons. When these weapons are the same type, they can be formed into batteries and fired as a group. Battery fire can be extremely useful, allowing them to deal significantly more damage to a single target, or spread their attacks across an area, increasing the chance of hitting a maneuverable target or even allowing them to attack multiple spacecraft at once. Some weapons always come in batteries. These weapons count as the listed number of weapons when attacking, but only cost the listed capital and body point costs.

Internal Weapons

These are weapons that are installed in the internal compartments of spaceships. Internal spacecraft weapons are complex systems, using advanced autoloading technology to retrieve spare ammunition from cargo space, and integrated electronics to allow for precise control of the weapon platform.

Autocannons

Autocannons are weapons that rapidly fire large caliber kinetic projectiles through explosive propellant to damage a target. They are cheap, but require cargo storage for the ammunition. Autocannons ignore any shields a spacecraft has. Autocannons fire Autocannon Rounds, which are themselves either Light or Heavy.

Light Autocannons Light Autocannons are one of the staples of space weaponry, being cheap and effective against light craft, but taken less often due to their ineffective nature against moderately armored craft and their very short range.

Heavy Autocannons Heavy Autocannons are the staple of close range space combat, dogfighting, and chasing. They are more expensive than light autocannons, but they pack a good punch against most light and moderate craft.

Cannons

Cannons are weapons that fire heavier shells through explosive propellants to damage a target. While they pack a much larger punch than autocannons, they have a much smaller ammunition store. Cannons ignore any shields a spacecraft has. Cannons fire Cannon Shells, which can be Light, Heavy, or Flak

Light Cannons Light cannons are close to mid-close range weapons, being very effective against armored craft with a good range. Light Cannons ignore 2 additional points of Hull Hardness (HRD)

Heavy Cannons Heavy cannons are close to mid range weapons, being even more effective against armored targets. Heavy Cannons ignore 4 additional points of Hull Hardness (HRD)

Flak Cannons Flak cannons are cannons that launch a timed explosive shell that explodes in a cloud of metallic shrapnel. They are used primarily for point defense, and as a defense against small craft. They have a very short range due to this, and are rather large.

Bomb Bays

Bomb Bays are weapons used to drop Bombs from a spacecraft. They are often used against ground targets, or against larger spacecraft, which they are extremely effective against. All bomb bays are identical, with the only differences in their use being the kind of bomb they're used to deploy. When you purchase your first bomb bay, choose whether to receive one ton of Standard, Plasma, or Ion Bombs. Additional bombs and types can be purchased with the Additional Ammunition upgrade. Rather than the Fire Weapon or Fire Battery actions, Bombs are used in combat with the Bombing Run action. Bombs normally lack guidance and propulsion systems and will simply continue traveling in the direction of the spacecraft that dropped them if used in space. As such a skilled helmsman is essential for performing Bombing Runs.

Bombs Bombs are cases that are packed with explosives that, upon impact, explode with a violent force. Bombs ignore any shields a spacecraft has. Bombs ignore 9 additional points of Hull Hardness (HRD).

Plasma Bombs Plasma Bombs are scaled up versions of Plasma grenades, containing fusion cores designed to go critical and explode upon impact.

Ion Bombs Ion Bombs are scaled up versions of EMP grenades, dealing Ion damage to a spacecraft, and potentially draining it's systems of large amounts of power.

Mine Layers

Mine Layers are weapons that allow for precisely controlled laying of Mines. All Mine Layers are identical, with the only differences in their use being the kind of mine they're used to deploy. When you purchase your first Mine Layer, choose whether to receive one ton of Proximity, Cloaker, Plasma Pulse, or Ion Pulse mines. Additional mines and types can be purchased with the Additional Ammunition upgrade. Mines are extremely similar to bombs, in that they are packed with explosives and rely on their violent explosion to cause damage. They are different from bombs in the fact that they have some kind of proximity device that make them much more useful in space combat, especially when being chased. A minefield's attack roll ignores any bonus to defense that a spacecraft may have from movement.

Proximity Mines are mines that explode when any spacecraft flies within range of them. Proximity mines arm themselves at the end of the turn they're laid. Proximity Mines ignore any shields a spacecraft has. Proximity Mines ignore 5 additional points of Hull Hardness (HRD).

Cloaker Mines function identically to proximity mines, but contain a built in cloaking module, which makes detecting them significantly harder. Cloaker Mines need their cloaking module to be charged with Usable Energy (UEG) before they're dropped. Cloaker Mines ignore any shields a spacecraft has. Cloaker Mines ignore 5 additional points of Hull Hardness (HRD).

Pulse Mines are more advanced variations on mines, containing plasma reservoirs and omni-directional emitters instead of explosives. They function like Proximity mines, but when they detect a spacecraft within range, they release a pulse of energy, dealing Plasma or Ion damage. A pulse mine's plasma reservoir must be filled before it's dropped, requiring Usable Energy (UEG) from the spacecraft's power core. Their primary benefit over explosive mines is their ability to detonate more than once.

Lancers

Lancers fire Lances using mechanical force at extreme velocities. Lances are thin, spear-like objects fired at incredible velocities. They derive their power from their kinetic energy, and can be used by skilled pilots and gunners to make long range shots. Lances ignore any shields a spacecraft has.

Tungsten lance A tungsten lance is a lance made primarily of the dense mineral tungsten, which is extremely effective against armor. A tungsten lance ignores 5 additional points of Hull Hardness (HRD).

Steel lance A steel lance is a lance made of the more common hardened steel. While not as effective as tungsten lances at penetrating armor, they are lighter and more can be carried. A steel lance ignores 2 additional points of Hull Hardness (HRD).

Harpoon Launcher

Harpoon Launcher A harpoon launcher is a weapon with an integrated winch that fires a hardened steel harpoon with barbed hooks, tethered at the trailing end to a steel cable connected to the winch. When successfully attacking another spacecraft, it inflicts the Harpooned condition. After another spacecraft is successfully harpooned, the spacecraft that harpooned it has a large degree of control over it's movement. Once per turn it can choose to restrict where the other spacecraft can move to, or even force it to move closer, by changing the slack in the cable. It can also drag a spacecraft along with it when it moves, using the same rules as if it were towing the harpooned spacecraft with a coupler. If a spacecraft has one or more spacecraft harpooned, it may even be able to force the harpooned spacecraft to collide with solid objects or each other as it drags them along. Such collisions can be avoided with an opposed pilot check, though a spacecraft takes a -2 on this check for each harpoon it's embedded with beyond the first.

While a Harpoon Launcher has a tethered harpoon embedded in another spacecraft or object, it may not make any further attacks without first releasing the cable, which is done automatically if the spacecraft chooses to fire it's harpoon launcher at a new target. If an attack with a harpoon misses, the harpoon is automatically reeled in by the winch, and the weapon can be fired again in the next round. Because each harpoon launcher requires it's own harpoon and cable to be useful, harpoon launchers are an exception to the usual ammunition rules. Each Harpoon launcher includes it's own Harpoon and Cable, and while loaded they do not require cargo space. Additional Harpoon Launcher ammunition can be purchased as normal, and each additional ton of Harpoon Launcher ammunition consists of 1 Harpoon and cable pair.

Harpoons Launchers also behave uniquely when formed into a battery. When fired as part of a battery, focused fire inflicts the harpooned condition for each harpoon in the battery, while saturation fire instead deals damage as a singular weapon attack, but affects up to one target per harpoon launcher in a 6Δ cone. Harpoons that are cut or torn out in combat have to be replaced and can't be used again.

Lasers

Lasers are devices that emit focused light through amplification that heats and burns the target it strikes. Lasers are powered by the power core, and are very powerful at close range, but are stopped by shields. Coolant is powered, and handled by the weapon itself.

Light Laser Light lasers make up for their weak emitters with rapid fire. They are extremely effective against armor.

Heavy Laser Heavy lasers are more powerful and effective than their smaller counterparts but require far more power to use.

Turbolaser

Turbolaser is an incredibly destructive weapon, limited only by it's equally incredible power consumption. When a spacecraft fires a turbolaser, the power core's normal failsafes are all disabled and the core is allowed go critical in the same manner as a plasma grenade. However, instead of exploding, all of this energy is used to power a single tremendous laser emitter. As there is no way to regulate the core's output, firing a turbolaser always consumes all of a spacecraft's usable energy.

Firing a turbolaser, it expends all of a spacecraft's Usable Energy (UEG) and inflicts the Drained condition for one round. Make one attack roll; if the attack succeeds against any targets caught in the line the character may roll the damage on all targets hit. It deals ((Usable Energy (UEG) / 3) × 1d8 damage(minimum 1d8)), to all targets in a line that is equal to 1Δ per Usable Energy (UEG) (Maximum range 30Δ). Because of their unique operation, turbolasers can't be formed into batteries or perform Calculated Fire or Sub-Targeted Strikes.

Plasmas

Plasma weapons fire bolts of plasma at a target, working very similarly to their hand-held counterparts. Coolant is powered, and handled by the weapon itself. They have better range than lasers, but because of this they have less damage. Plasma is stopped by shields.

Light Plasma Light plasma emitters boast good damage with low power consumption.

Heavy Plasma Heavy plasma emitters boast very good damage against shields and armor, with moderate power usage.

Ion

Ion emitters fire ionized gas at a target, causing disruption of shields, energy-based weapons, and even power cores and systems, but cause no damage on the hull, or armor of a ship.

Light Ion Light Ion emitters are low weight, low power usage, with medium range.

Heavy Ion Heavy ion emitters are upgraded versions of light ion emitters, boasting both a better range and a higher output.

Rocket Bays

A Rocket Bay is a weapon that fires Rockets. Rockets are unguided munitions that use rocket engines to deliver an explosive payload. They are generally used as a close range ship-to-ship weapon, and a medium range ship-to-surface weapon, as they are unguided and unable to correct themselves in flight. Because of the lack of guidance system, they are relatively inexpensive. Rockets ignore any shields a spacecraft has.

Rocket A Rocket is a singular high damage munition. Rockets ignore 5 additional points of Hull Hardness (HRD).

Volley Rocket A Volley Rocket is medium damage munition, that can be fired in sets of three. Volley Rockets ignore 1 additional points of Hull Hardness (HRD).

Missile Bays

A Missile Bay is a weapon that launches missiles. Missiles are guided munitions that use rocket engines to deliver their payload.

They differ from rockets for being slower, but can correct their path mid-flight and follow and chase down a target. Missiles have a +5 attack bonus when a spacecraft has a target lock on their enemy. A target lock is gained by using the Active Sensors action and waiting 1 turn in combat. When fired without a target lock, Missiles have no attack bonus. Missiles are slow projectiles, taking one round to reach their target. Missiles ignore 5 additional points of Hull Hardness (HRD).

Torpedo Tubes

Torpedo Tubes are weapons that fire torpedoes. Torpedoes are guided munitions that use rocket engines to deliver their payload. Torpedoes have a +5 attack bonus when a spacecraft has a target lock on their enemy. A target lock is gained by using the Active Sensors action and waiting 1 turn in combat. When fired without a target lock, torpedoes have no attack bonus. Where as a missile explodes when striking an enemy craft, torpedoes have hardened outer shells that allow them to pierce their target's outer hull before detonating. They are used near-exclusively by larger ships, boast excellent range and very good damage, but because of their speed, are only usable against ships that are Medium size and larger. Torpedoes tubes have exhilaratingly slow reload times, only being able to be fired once per round. Torpedoes are slow projectiles, taking one round to reach their target. Torpedoes ignore 5 additional points of Hull Hardness (HRD).

Magnetic Projectile Weapons

These are weapons that accelerate ferrous metal slugs to extremely high velocities using electromagnetism. Requiring large amounts of space and power to operate, these weapons are a staple of the largest spacecraft. Magnetic Projectile Weapons fire slugs of ferrous metal in varying sizes and compositions, depending on what they're meant to be fired from.

Gauss Rifles

Gauss Rifles are projectile accelerators that use various coils around a barrel to accelerate a ferrous object at a rapid pace. Gauss rifles are short to mid-range weapons, often taking the place of autocannons due to their ability to fire accurately and rapidly. Gauss Rifles ignore 5 additional points of Hull Hardness (HRD).

Railguns

Railguns are electrically powered projectile launchers that accelerate a conductive projectile along two magnetic rails using sliding or rolling contacts that allow a large electric current to pass through the projectile, which interacts with the strong magnetic fields produced by the rails to accelerate it to high velocities. Railguns ignore 9 additional points of Hull Hardness (HRD).

MAGCEL Cannons

MAGCEL Cannons or 'Magnetically Accelerated Cannons' are extremely long ranged, accurate weapons, capable of punching through spacecraft hulls with ease. With exceptional range and power, MAGCEL Cannons rival Turbolasers in their potential for destruction. A MAGCEL cannon fires a large slug of metal with such force that it can pierce a spacecraft through multiple spacecraft hulls.

When firing a Magcel cannon, draw a line from the spacecraft out to a point at the cannon's maximum range. For each spacecraft in that line, starting from the closest, make an attack roll. If the attack is a hit, but not a critical strike, then the target takes damage a single time, and the projectile stops, doesn't pierce the spacecraft's hull, and doesn't threaten other spacecraft in the line of fire. If the attack roll is a critical strike, the attack deals weapon damage for each of the target's squares that are in the line of fire, applying hardness only once. (Maximum 2x Large, 3x Huge, 4x Gargantuan, 6x Colossal), it receives 2 hull breaches, and the projectile continues to the next target in the line. If the attack roll is a miss, the target takes no damage and the projectile continues to the next target in the line. Repeat this process for each next closest target in the line of fire, until the projectile either stops, or until it reaches the end of the line at the weapon's maximum range. MAGCEL Cannons ignore 9 additional points of Hull Hardness (HRD).

Ammunition

If a spacecraft's weapon requires Ammunition, it has to be stored somewhere on the spacecraft. Therefore, a spacecraft requires at least one ton of cargo space for each kind of ammunition it needs. When you first purchase a type of weapon with capital, you also receive one ton of it's ammunition for that weapon, which can be automatically replenished at no extra cost anywhere offering ammunition for sale. This applies only once per type of weapon. For example, if you purchase ten Autocannons, all ten of them will need to draw from the original ton of ammunition.

Additional Ammunition

It is, of course, possible to stock the spacecraft's cargo hold with additional ammunition. When purchasing additional ammunition up to four tons of additional ammunition can be stocked. Each ton can be a different kind of ammunition, such as bombs, mines, autocannon rounds, or railgun slugs. This ammunition is replenished whenever the spacecraft's normal supply of ammunition is replenished. Four tons of ammunition costs 1 Capital.

Ammunition Modifications

Cannon shells, Bombs, Mines, Rockets, Missiles, and Torpedos can have adjustable yields, guidance systems, and payloads implemented to suit a given situation.

Yields

Low Yield The weapon's base damage dice are reduced by half. A spacecraft can carry twice as much low yield ammunition per ton as the standard variety.

Standard Yield The weapon deals the damage listed on the Weapons table and can carry the listed amount of ammunition.

High Yield Weapons with three or fewer damage dice deal an additional damage die. Weapons with four or more damage dice deal two additional damage dice, plus one additional damage die for every two dice beyond the fourth. A spacecraft can only carry one fourth as much high yield ammunition (rounded down) per ton as listed on the table.

Guidance

No Guidance For weapons that normally have guidance systems like Missiles and Torpedoes, removing the guidance system means a projectile will never have a +5 attack bonus when fired, as if you did not have a target lock. Stripping out the guidance system means all of a projectile's fuel is dedicated to thrust, rather than course correction. Unguided Missile and Torpedoes are no longer slow projectiles and attacks rolls and damage occur immediately when the projectile is fired.

Added Guidance For weapons that normally don't have guidance systems, like Cannon Shells, Bombs, Mines, and Rockets, a guidance system can be installed to correct a projectiles path in flight. Guided munitions gain a +5 attack bonus when attacking a spacecraft or other target they have a target lock on. Spacecraft can carry only half as much (rounded down) guided ammunition per ton as standard. Adding guidance systems to Mines only affects attack rolls when using them in a bombing run.

Payloads Some ammunition may have variant payloads, trading away the general purpose reliability of standard munitions for niche benefits. Ammunition with a modified payload has all of it's damage dice reduced to the next smallest size. (1d12 > 1d10 > 1d8 > 1d6 > 1d4 > 1d3 > 1d2 > 1)

Anti-Armor Anti-armor payloads are more effective against larger ships with heavier, thicker armor. Each hit inflicts the Ablated condition to the target, inflicting it an additional time for every extra damage die gained from battery fire or bombing runs.

Cluster Cluster munitions consist of multiple projectiles or explosives that split apart after being released. Cluster weapons used in a bombing run or weapon attack gain a +1 attack bonus and a +1 TN to avoid for every weapon fired or object released, either singularly or in the battery.

Painter Covers the target in a highly emissive paint, which lasts 1d3 rounds before the chemical reactions responsible for it's emissive properties are exhausted. All guided munitions are considered to have a target lock when used against painted targets.

Weapon Statistics

Weapon The name of the weapon.

Damage The base damage the weapon deals.

Critical The range of natural attack rolls that threatens a critical hit.

Critical Condition (Crit. Condition) When this weapon scores a critical strike, this is the condition applied to the damaged spacecraft. Additionally, most spacecraft conditions can stack with themselves, dealing additional damage or increasing their effects. When a critical condition is listed with a number in parenthesis, then that weapon deals that many stacks of the condition when it scores a critical hit.

Damage Type The type of damage that the weapon deals. Certain damage types behave differently against spacecraft, as noted below.

Ballistic Damage Ballistic Damage is one of the most basic damage types. Ballistic Damage deals normal damage to spacecraft and is reduced by a spacecraft's hardness.

Piercing Damage Piercing Damage focuses on piercing hulls and armors. All weapons that have piercing damage ignores 1 point of hardness as a base, and can ignore more based on the specific weapon.

Concussion Damage Concussive Damage focuses on using concussive force to inflict damage. All weapons that have concussion damage ignores 2 points of hardness as a base, and can ignore more based on the specific weapon.

Plasma Damage Plasma Damage focuses on using plasma to inflict damage. Plasma Damage can be stopped by spacecraft shields.

Ion Damage Ion Damage focuses on using ionizing energy to disrupt shields and eletrical components. Ion Damage can be stopped by spacecraft shields. When a weapon that deals Ion Damage successfully attacks a spacecraft's shield, it loses twice as much soak as the damage dealt. If an ion weapon successfully attacks a craft's hull, it drains the amount of Usable Energy (UEG) it causes in damage from the spacecraft. If a spacecraft that takes Ion damage has it's Usable Energy (UEG) reduced to 0, then that spacecraft is disabled for 1 round. Ion weapons that damage a non-spacecraft target or a creature or vehicle at individual scale take electric damage and are affected as if an EMP Grenade detonated at their location.

Range The range of the weapon in Deltas in Min-Max format. A target must be beyond the weapon's minimum range and within it's maximum.

Ammunition Some weapons require Ammunition. This is presented as two numbers separated by a colon (Ex. 30:4000). The first number means that a weapon uses 30 units of ammunition each time it's fired, and the second number means that a spacecraft can store 4000 units per ton of cargo space.

Usable Energy (UEG) Some weapons require Usable Energy. When a weapon is fired, it uses the listed amount of usable energy.

Properties Weapons can have number of unique features, from Guidance systems, coming in sets of batteries, and other things that affect how the weapon is used in combat.

Fast A fast weapon has a very high rate of fire. When attacking with Fast weapons, reduce the combat point cost by 1.

Slow A slow weapon has a particularly slow rate of fire, or has a significant delay before firing. When attacking with slow weapons, increase the combat point cost by 1.

Battery(X) When installing a weapon with Battery (X), the spacecraft is fitted with X identical weapons. Each weapon deals the listed damage and consumes the listed Ammunition or Usable Energy

Guided A guided weapon is directed towards it's intended target by an on-board guidance system. When a spacecraft has a target lock on a target, it gains a +5 bonus on it's attack rolls with guided weapons.

Loading A Loading weapon requires significant effort or complication to be reloaded. Weapons with the Loading property can only be fired once per round. This applies on a per-weapon basis.

Body Points (BP) The number of body points required to mount a weapon or battery of weapons on a spacecraft.

Capital Cost (CAP) The cost in capital of acquiring and maintaining a weapon or battery of weapons.

Weapon	Damage	Critical	Crit. Condition	Damage Type	Range	Ammunition	UEG	Properties	BP	CAP
Cannons and Autocannons										
Light Autocannon	2d4	16-18	L. Casualties	Ballistic	1-4	30:4000	0	Battery (4), Fast	1	1
Heavy Autocannon	2d6	15-18	L. Casualties	Ballistic	1-6	30:2000	0	Battery (2)	1	1
Light Cannon	2d8	16-18	Reeling	Ballistic	1-9	1:30	0	Battery (2), Slow	2	1
Heavy Cannon	2d10+4	15-18	Reeling	Ballistic	1-13	1:20	0	Slow	2	1
Flak Cannon	3d4+2	14-18	Reeling	Ballistic	1-5	1:60	0	Battery (3)	2	1
Bomb Bay and Mine Layers										
Bomb Bay, Standard	4d10	16-18	H. Casualties	Concussion	0-1	1:10	0	None	2	1
Bomb Bay, Plasma	4d8	13-18	Fire (3)	Plasma	0-1	1:10	0	None	2	1
Bomb Bay, Ion	4d4	14-18	Drained (3)	Ion	0-1	1:10	0	None	2	1
Mine Layer, Proximity	3d10	15-18	L. Casualties	Concussion	0-1	5:80	0	None	2	1
Mine Layer, Cloaker	2d10	14-18	L. Casualties	Concussion	0-1	5:40	2	None	2	1
Mine Layer, Plasma Pulse	2d8	13-18	Fire	Plasma	0-1	5:20	4	None	2	1
Mine Layer, Ion Pulse	1d4+2	14-18	Drained	Ion	0-1	5:20	4	None	2	1
Lancers and Harpoons										
Tungsten Lancer	2d6+3	11-18	Breached	Piercing	1-8	1:10	0	Slow	1	1
Steel Lancer	2d6+3	13-18	Breached	Piercing	1-8	1:30	0	Battery (2), Fast	1	1
Harpoon Launcher	1d2	16-18	Demoralized	Piercing	1-6	1:1[1]	0	Slow, Loading	2	1
Lasers, Plasmas and Ions										
Light Laser	2d8+2	14-18	Fire	Plasma	1-5	0	2	Battery (2), Fast	1	1
Heavy Laser	3d8+4	13-18	Fire (2)	Plasma	1-7	0	3	Fast	2	1
Turbolaser	See Text	N/a	N/a	Plasma	1-30[2]	0	All	Slow	8	7
Light Plasmas	1d8+1	14-18	Fire	Plasma	1-7	0	1	Battery (4)	1	1
Heavy Plasmas	2d8	13-18	Fire	Plasma	1-9	0	2	Battery (2)	1	1
Light Ions	1d4	14-18	Drained	Ion	1-6	0	2	Battery (3)	1	1
Heavy Ions	1d4+1	13-18	Drained (2)	Ion	1-8	0	3	Battery (3)	2	2

Table 114: Equipment, Internal Spacecraft Weapons

Weapon	Damage	Critical	Crit. Condition	Damage Type	Range	Ammunition	UEG	Properties	BP	CAP
Rocket Bays, Missile Bays and Torpedo Tubes										
Rocket Bay	6d4	14-18	Reeling	Concussion	1-6	1:40	0	Fast	2	1
Volley Rocket Bay	4d4	14-18	Reeling	Concussion	1-6	1:180	0	Battery (3), Fast	2	1
Short Range Missile Bay	5d3+7	16-18	L. Casualties	Concussion	1-5	1:24	0	Battery (2), Fast, Guided	2	1
Medium Range Missile Bay	7d3+12	16-18	M. Casualties	Concussion	4-12	1:16	0	Slow, Guided	3	2
Long Range Missile Bay	12d3+20	16-18	H. Casualties	Concussion	10-30	1:8	0	Slow, Guided	4	3
Light Torpedo Tube	3d10+15	13-18	H. Casualties	Concussion	2-16	1:6	0	Slow, Loading, Guided	4	1
Heavy Torpedo Tube	6d10+25	11-18	H. Casualties	Concussion	3-40	1:4	0	Slow, Loading, Guided	6	2
Powered Weapons										
Gauss Rifle	1d12+4	13-18	Breached	Concussion	1-18	10:300	1	Fast	3	2
Railgun	2d12	12-18	Breached	Concussion	1-30	1:30	3	None	5	4
MAGCEL Cannon	2d12[3]	11-18	Breached	Concussion	1-40	1:10	5	Slow	10	7

Table 115: Equipment, Internal Spacecraft Weapons, Cont

1. Harpoon Launchers have special rules regarding their use of ammunition. See their description.

2. The turbolaser's maximum potential range is 30, but actual range varies by energy expenditure.

3. The MAGCEL Cannon can deal additional damage to larger ships. See its description.

Module Weapons

Module weapons are weapons that are entirely self-contained, not using or requiring cargo space or deep system integration. Module weapons can be installed or changed much more readily than intenral weapons, requiring minimal time and tools. Because of their semi-disposable nature and simple methods of installation module weapons are limited in the size of battery they can be formed into, and carry limited amounts of ammunition thanks to the constraints of the module systems and the safety features that protect the weapons when the ship is damaged. Despite all this, module weapons do have various advantages. They are much less expensive than their standard weapon counterparts, allowing for flexibility in weapons selection and mounting. Expended module weapons are replaced whenever ammunition would be replenished.

Module Weapon Batteries

Module weapons are inexpensive to mount, but their lesser degree of system integration and external mounting limits a spacecraft's ability to fire them in a coordinated and safe manner. Module weapons may only form batteries with other module weapons of the same type, including any ammo modifications, and may only form batteries up to the weapon type's Ripple value. The number of weapons that may be used in a bombing run or to lay a minefield is also limited to the Ripple value. Additional module weapons may be mounted to provide more ammo or additional payload types, but this ripple limit prevents the spacecraft from simply firing everything at once.

Bomb Rack Bomb rack are Bombs mounted to the exterior of a spacecraft. Each Pylon holds 4 bombs.

Mine Pylon A Mine pylon is a cluster of mines with tiny pneumatic thrusters attached. Proximity and Cloaker mine pylons contain enough mines to lay minefields in 2 squares, while Plasma Pulse and Ion Pulse mine pylons contain enough mines to lay minefield in a single square.

Lance Pods Lance pods attach multiple lances to the exterior of a spacecraft. Each lance is contained in it's own tube and fired by an extremely powerful pneumatic cylinder.

Rocket Pod This weapon operates identically to a rocket bay, but is mounted to the exterior of a spacecraft. It contains 16 Rockets. Rockets ignore 5 additional points of Hull Hardness (HRD).

Volley Rocket Pod This weapon operates identically to a volley rocket bay, but is mounted to the exterior of a spacecraft. It contains 24 Volley Rockets, which are fired in sets of three. Volley Rockets ignore 1 point of hardness.

Missile Rails Missile rails operate identically to Missile Bays, but are mounted to the exterior of a spacecraft. Each rail holds between 4 and 8 Missiles Missiles ignore 5 additional points of Hull Hardness (HRD).

Torpedo Mount Torpedo mounts operate identically to Torpedo Tubes, but are mounted to the exterior of a spacecraft. Each mount holds 2 or 4 Torpedoes. Torpedoes ignore 5 additional points of Hull Hardness (HRD).

Storing and Replacing Module Weapons

Module weapons are inexpensive, and experience diminishing returns when mounted in large quantities. Often a spacecraft will have many more module weapons than it cares to mount. The additional module weapons can be stored in a spacecraft's cargo hold, or in the hold of an allied spacecraft. One capital's worth of module weapons takes up one ton of cargo space. When a spacecraft exhausts the ammunition supply of one of its module weapons (or simply wishes to change configurations), the module weapon can be replaced or replenished quickly and easily owing to its simplified modular systems. During combat, a spacecraft may take the Rearm action to replace module weapons on a docked spacecraft using module weapons stored in its own cargo hold. Between combat encounters module weapons can be replaced freely, requiring only a spacesuit (if replacing them in space) or access to a suitable location (such as another spacecraft's dock)

Replacing module weapons in space is a delicate operation, as the new weapon is gently ejected into space and maneuvered by crew on EVA into position. Naturally, some hothead pilots think that attempting this in the middle of a battle is perfectly reasonable and not at all insane. If a character wishes to perform such a reckless act, their spacecraft will spend one entire turn performing no other actions, lest the spacecraft and replacement weapon and foolhardy spacewalker become catastrophically entangled or separated. After spending the turn in frantic action, the spacecraft may replace 1 BP worth of module weapons from their own cargo storage. This cannot be performed if the spacecraft is currently Reeling, Harpooned or coupled by a non-cooperating spacecraft, facing a Mutiny, or inside an atmosphere.

Module Weapon Ammo Modifications

All munitions fired from module weapons except lances can have Ammunition Modifications. The effects on damage are the same as for non-module weapons, but instead of modifying ammunition capacity the costs to purchase and mount the weapons change.

Yields

Low Yield Low Yield module weapons receive twice as many weapons per Capital and can install twice as many weapons in the same number of Body Points (BP). This stacks with the Battery property.

Standard Yield Standard Yield module weapons use the listed BP and Capital costs.

High Yield High Yield module weapons cost twice as much Capital and their BP cost doubles. The Battery property still applies.

Guidance

No Guidance Missiles and Torpedoes without guidance systems use the listed BP and Capital costs.

Added Guidance Bombs, Rockets, and Mines with guidance systems cost twice as much Capital.

Payloads Some ammunition may have variant payloads, trading away the general purpose reliability of standard munitions for niche benefits. Ammunition with a modified payload has all of it's damage dice reduced to the next smallest size. (1d12 > 1d10 > 1d8 > 1d6 > 1d4 > 1d3 > 1d2 > 1)

Anti-Armor Anti-armor payloads are more effective against larger ships with heavier, thicker armor. Each hit inflicts the Ablated condition to the target, inflicting it an additional time for every extra damage die gained from battery fire or bombing runs.

Cluster Cluster munitions consist of multiple projectiles or explosives that split apart after being released. Cluster weapons used in a bombing run or weapon attack gain a +1 attack bonus and a +1 TN to avoid for every weapon fired or object released, either singularly or in the battery.

Painter Covers the target in a highly emissive paint, which lasts 1d3 rounds before the chemical reactions responsible for it's emissive properties are exhausted. All guided munitions are considered to have a target lock when used against painted targets.

Weapon	Damage	Critical	Crit. Condition	Damage Type	Range	Ammunition	Ripple	Properties	UEG	BP	CAP
Bomb Pylons and Mine Pods											
Bomb Rack, Standard	4d10	16-18	H. Casualties	Concussion	0-1	4	5	None	0	1	5:1
Bomb Rack, Plasma	4d8	13-18	Fire (3)	Plasma	0-1	4	5	None	0	1	5:1
Bomb Rack, Ion	4d4	14-18	Drained (3)	Ion	0-1	4	5	None	0	1	5:1
Mine Pylon, Proximity	3d10	15-18	L. Casualties	Concussion	0-1	2	3	None	0	1	6:1
Mine Pylon, Cloaker	2d10	14-18	L. Casualties	Concussion	0-1	2	3	None	2	1	3:1
Mine Pylon, Plasma Pulse	1d8	13-18	Fire	Plasma	0-1	1	3	None	4	1	3:1
Mine Pylon, Ion Pulse	1d4+2	14-18	Drained	Ion	0-1	1	3	None	4	1	3:1
Lancer Pylons											
Tungsten Lance Pod	2d6+3	11-18	Breached	Piercing	1-8	2	5	Slow	0	1	5:1
Steel Lance Pod	2d6+3	13-18	Breached	Piercing	1-8	6	8	Battery (2), Fast	0	1	4:1
Rocket Pods, Missile Pylons and Torpedo Pylons											
Rocket Pod	6d4	14-18	Reeling	Concussion	1-6	16	5	Fast	0	1	5:1
Volley Rocket Pod	4d4	14-18	Reeling	Concussion	1-6	24	12	Battery (3), Fast	0	1	4:1
Short Range Missile Rail	5d3+7	16-18	L. Casualties	Concussion	1-5	6	8	Battery (2), Fast, Guided	0	1	4:1
Medium Range Missile Rail	7d3+12	16-18	M. Casualties	Concussion	4-12	8	4	Slow, Guided	0	1	4:1
Long Range Missile Rail	12d3+20	16-18	H. Casualties	Concussion	10-30	4	4	Slow, Guided	0	1	4:1
Light Torpedo Mount	3d10+15	13-18	H. Casualties	Concussion	2-16	4	2	Slow, Loading, Guided	0	2	2:1
Heavy Torpedo Mount	6d10+25	11-18	H. Casualties	Concussion	3-40	2	2	Slow, Loading, Guided	0	2	1:1

Table 116: Equipment, Module Spacecraft Weapons

Spacecraft Upgrades

Repair Supplies

This upgrade stocks the spacecraft's cargo hold with up to four tons of repair supplies. These can be used by repair pods or the spacecraft's crew to repair the spacecraft. This costs 1 Capital and can be replenished wherever a spacecraft can purchase spacecraft components and upgrades.

Emergency Atmospheric Landing Kit

This upgrade equips the spacecraft with parachutes that are used to slow its descent in an atmosphere preventing a hard, uncontrolled

landing in the case of an emergency. It also equips the spacecraft with automatic airbag inflaters, allowing a spacecraft to float in case of a water landing, or bounce in case of a hard one. It costs 1 Capital and 1 Body Point, plus 1 Body Point for every size category the spacecraft is over Medium. Although called an atmospheric landing kit, it can't protect a spacecraft from the crushing pressures of jovian atmospheres.

Cloaking Module

This upgrade equips the spacecraft with a module that bends the light around the spacecraft, making it appear to be invisible to the naked eye. While this module is active, it uses 5 UEG + 5 UEG per size category the spacecraft is above large, per round. While cloaked, the spacecraft has a +8 bonus on stealth checks and total concealment (50% miss chance). This upgrade costs 5 capital and 3 Body Points + 1 Body Point per size category the spacecraft is over Small size.

Countermeasures Module

This upgrade equips the spacecraft with a module that launches electronic and heat countermeasures in order to thwart enemy targeting systems. Countermeasures can be launched for 0 CP and the effects last for one round. While launching countermeasures the spacecraft has partial concealment (30% miss chance), other craft are unable to acquire a target lock on it, any existing target locks are broken, and any missile or torpedo attacks against the spacecraft receive an additional -3 penalty. This upgrade costs 1 capital, and 1 Body Point (BP) plus 1 Body Point (BP) per size category the spacecraft is over Medium. A Countermeasures Module can hold enough countermeasures to be deployed three times and it require no cargo space for these three uses. Additional Countermeasures can be purchased for 1 capital. Each capital spent on Additional Countermeasures provides 6 uses and takes up 1 ton of cargo space.

Advanced Cooling Systems

This upgrade allows a spacecraft to better manage it's waste heat, allowing it to remain in silent running for a longer time before it overheats. This upgrade extends the Silent running time before overheating by 5 rounds, and costs 1 Body Points (BP), 1 capital, and adds 1 Power Drain (DRN) per upgrade.

Advanced Communications

This upgrade fits the spacecraft with advanced communication systems that improve upon a spacecraft's standard communication abilities. Advanced Communication systems offer high security laser multicasting over autonomous drones, real-time translation between all known languages and the sending of non-living objects that weigh 25 lbs or less. When using Laser multicasting, the spacecraft releases a swarm of tiny repeater drones, roughly the size of a spider or bee-bot, which disperse from the spacecraft and allow the spacecraft to bounce laser communications between multiple recipients. Laser multicasted communications are bounced between between the drones, and so are not limited by laser communication's normal range or line of sight requirements, while retaining it's advantages of being immune to jamming and interception. When a spacecraft is using laser multi-casting, it can allow other spacecraft to communicate with each other over lasers using itself as a router, letting other spacecraft in the area gain the benefits of advanced communication even when they only have standard comms installed. The spacecraft must be within 3Δ or less to send an object. If a targeted spacecraft has any kind of shield activated, the sending of objects will fail. It costs 5 Body Points, 5 Capital, and adds 5 Power Drain (DRN).

Advanced Fire Suppression Systems

This upgrade is an advanced fire suppression system that suppresses fires instantly by flooding the affected area with a special gas. While all spacecraft hulls include fire suppression systems, they can sometimes be overwhelmed by the ferocity of certain fires, especially those caused by plasma and laser weaponry. An AFS system activates automatically when a spacecraft receives the fire condition, suppressing the fire and ending the condition before the spacecraft can be damaged. An AFS requires one ton of cargo space to store the required tanks of pressurized gas, and can activate 4 times. This upgrade costs 1 capital, 1 Body Points (BP), and an additional 1 Body Point (BP) for every size category the spacecraft is above medium. Additional tanks of AFS gas can be carried to provide additional uses. This costs 1 capital per ton and provides 4 uses for every ton of gas.

Advanced Targeting Systems

This upgrade is a targeting computer, that aids in attacking with all weapons. It provides a +1 attack bonus, costs 1 capital, and adds 2 Power Drain (DRN) per upgrade. This upgrade may be taken a maximum of 10 times.

Artificial Intelligence

This upgrade is a general artificial intelligence module, capable of supplementing, or even replacing, the spacecraft's crew during normal operations. An artificial intelligence can fulfill the crew requirement for a spacecraft of medium size, or work in tandem with an existing crew to increase their capabilities. Artificial Intelligence is rated by its level, which range from 1 to 10. When acting on it's own, an Artificial Intelligence has a Skill Modifier equal to 3 × AI's Level and an attack bonus equal to their level. When used as a supplement to an existing crew, the AI grants a bonus to the crew's skill modifier equal to it's level. An Artificial Intelligence can't improve an existing crew's attack bonus. A spacecraft's Artificial Intelligence can also spawn subprocesses capable of operating independently when installed on a Computer's AI Module, in which case it works as an AI of it's level. An AI can spawn up to 2 such subprocesses per level. Because of their tremendous capabilities, an Artificial Intelligence uses a sizable amount of space and power for the advanced systems it requires to run. An Artificial intelligence costs 2 Capital per level, Body Points (BP) equal to half it's level (rounded up) , and adds 2 Power Drain (DRN) per level. Additionally, if the AI is replacing a crew entirely it requires an additional 1 Body Points (BP) + 1 Body Points (BP) per size category the spacecraft is above medium in order to store and maintain the various robots and drones required to perform physical actions aboard a spacecraft.

Neural Network

This upgrade is a single purpose artificial intelligence module, capable of supplementing a crew or general purpose AI when performing certain tasks. A Neural Network module is tailored to

a certain function and grants a bonus to a specific skill, such as Pilot or Technology Use, used by a spacecraft. A Neural Network is rated by it's level, which ranges from 1 to 10, and grants a bonus equal to it's level to it's skill. This upgrade costs 1 capital and adds 1 Power Drain (DRN) per upgrade. A neural network module might have a special name, depending on it's skill, such as "Auto Pilot" if it affects pilot checks or "Emergency Medical Hologram" if it affects Treat Injury checks. The Neural Network Modules used by spacecraft are entirely separate in scale and scope from the more general Artificial Intelligence modules, available for spacecraft or for common consumer products like computers and augmentative vision devices.

Advanced Navigation

This upgrade gives the spacecraft an advanced navigation computer, that uses star locations, various signals from confirmed locations, such as light gates and location buoys to determine the spacecraft's exact location. The navigation computer also helps calculate the most efficient routes for moving from one point to another, reducing any interplanetary travel times at sublight speed by half. An advanced navigation system is also required for an on-board light engine or FTL engine to function safely. This upgrade costs 1 capital and adds 5 Power Drain (DRN).

Advanced Sensors

This upgrade gives the spacecraft a more powerful, robust sensor system, capable of easily detecting most spacecraft and hazards. When using Active Sensors, this upgrade can maintain up to 4 simultaneous target locks against different targets, and can also detect all weapons, shield levels and types, markings, and even generate accurate image representations of the spacecraft. Advanced Sensors are also an indispensable tool for locating dangers like cloaked spacecraft, minefields, or other difficult to find objects, providing a +10 bonus on Technology Use checks when a spacecraft uses the Active Sensors action. This upgrade costs 3 Capital, 3 Body Points (BP) and adds 5 Power Drain (DRN).

Spacecraft Campaigns

Time and Space

A campaign can take place over a long period of time in game. Measuring the passage of time can be difficult, as every star system's planets will have different lengths for their days and years. As such, most of the times and datekeeping practices used by space industries have been standardized to the interstellar calendar. In space, a day is exactly 25 hours. A week is 7 days, a month is 4 weeks (28 days), and a year is 12 Months (48 weeks or 336 days). Local star systems can, and often will, keep local calendars based on whatever planet the calendar is used on, but most space and space related industries will use the standard interstellar calendar.

Communication in Space

Whether you need to tell your employer about a change in circumstances, or to send military secrets to your home system, you may need to communicate across space. The time it takes for your message to arrive will depend on the method of communication you use. The following are examples that a Game Master can use when deciding what forms of communication are available in their campaign. They can opt to use them as presented here, modify them to suit the specifics of their campaign, or ignore them in favor of creating their own solution.

- **Physical Communication** This category includes the mailing of letters, packages, data storage devices, and any other methods that involve moving physical objects from place to place. Physical Communication is limited by the speeds of travel available, but is potentially the most secure. If the information you're sending is written on a piece of paper, then the only way anyone else can read it is if they physically take that paper from you.
- **Light-Speed Communication** Light-speed communication involves sending information with electromagnetic waves, whether that's using Light, Radio, or some more exotic method. Light-speed communication is effectively instant at shorter distances, but can take several hours at interplanetary scales. For example, if it takes 1 hour for a spacecraft to travel between two planets at light speed, it takes an hour for a message sent from one planet to reach the other, and another hour for any reply to reach the first planet.
- **Faster Than Light Communication** If you can send a spacecraft through a wormhole, you can send information. FTL communications involves sending information using the same methods as FTL travel. FTL communications is typically faster than FTL travel, because while a spacecraft will take time to traverse the wormhole's length, a laser or radio signal can pass through it much faster. FTL communications can still take significant time for a message to arrive, depending on how far the recipient is from an FTL Comms relay. For example, if the sender is on a planet with an FTL gate or FTL Comms Relay in orbit wants to send a message to a recipient in another star system, the message is first sent to the FTL Relay using light-speed communications. Since it's orbiting the planet, it's effectively instant. Next, the message will be transmitted to it's destination star. This can generally also be treated as instantaneous. In the final step, it needs to be transmitted from the FTL comms relay in the destination system to the recipient. If the recipient is on a planet that the FTL comms relay is orbiting, then this too can be considered instant, and communication between them can take place at more or less real time. However, if the recipient is on a spacecraft or station far from the FTL comms relay, the message will have to travel from the relay to the recipient at light speed, which could take multiple hours, and again take hours for a reply to reach the original sender.

Traveling by Spacecraft

Spacecraft Transportation as a service

If your campaign isn't spacecraft focused, and your characters don't have access to their own spacecraft, they may still require the occasional use of one. The following table lists example prices for traveling by spacecraft on a per passenger basis. The listed prices are average fares. Well traveled routes can cost up to 75% less, while uncommon routes to remote locations might cost even more.

- **Planetary Travel** Planetary travel includes any travel that is confined to the area around a single planet. This includes traveling to and from the planet's surface and any of it's moons or space stations. Planetary travel is typically fast and safe, with preset routes and itineraries provided to spacecraft operators. A typical planetary spaceflight takes roughly one day at sublight speeds.
- **Interplanetary Travel** Star systems rarely have all of their activity confined to a single world. Space industries tend to spread out as far as it's profitable to travel. A spacecraft will frequently need to travel between multiple places in a single system. Often, interplanetary travel times will have a large degree of variance, as the distance between planets themselves will vary wildly depending on where in their orbits they are.
- **Inner System** The inner system includes the system's star (Or stars if it's a binary, or even a trinary system), as well as those planets which are closest to it. The inner system includes a star's entire habitable zone, which is the band of space where planets have roughly the correct temperature for liquid water and life to exist. Travel between objects and bodies in the inner system is relatively fast when using fusion powered spacecraft. A typical spaceflight within the inner system takes 4d6 days at sublight speed, or up to 1 hour at Lightspeed. Examples of Inner System planets include Mercury, Venus, Earth, and Mars.

- **Mid System** The Mid System consists of those planets beyond the inner system but before the icy reaches of the Outer System. Travel between objects in the mid system can take significant amounts of time. A typical spaceflight between objects in the Mid System takes 1d4+2 weeks at sublight, or up to 3 hours at lightspeed, while one between the Mid System and Inner System takes only 1d4 weeks at sublight speed, or up to 2 hours at lightspeed. Examples of Mid System objects include the planets Jupiter and Saturn, the Asteroid Belt, and the dwarf planet Ceres.
- **Outer System** The Outer System consists of those planets beyond the Mid System. It is vast, cold, and dark. Generally, the outer system consists of those areas so far from their star that Solar Power ceases to be a practical option for most purposes. A typical spaceflight between objects in the outer system takes 3d6 weeks at sublight speed, or up to 12 hours at lightspeed. Spaceflights between the outer system and the mid system take 3d4 weeks or up to 8 hours at lightspeed, while ones to the inner system can take as few as 2d4 weeks or up to 4 hours at lightspeed. Examples of Outer System objects include the planets Uranus and Neptune, and the dwarf planets Pluto, and Eris
- **Interstellar Travel** In space, the distances between stars are extraordinarily vast. Travel between stars at sublight speeds can take decades or centuries, and even at light speed, the journey between two nearby stars can still take multiple years. It's not uncommon to hear stories of planets sending early colony ships to nearby stars at sublight speed, only for their colonists to arrive to a fully developed star system because the planet that originally sent them later developed FTL travel and sent new colony ships who fully colonized the system before the original colonists ever arrived. For this reason, interstellar travel is best performed at FTL (Faster Than Light) speeds. The exact speed of FTL travel will likely vary to suit the needs of the campaign. If your campaign takes place against a backdrop of a galaxy spanning war, if may be necessary for FTL speeds to travel tens or hundreds of light years per day, where as if your campaign is focused to a small bubble of systems a few hundred light years across, then an FTL speed of only 1ly/day might be more appropriate.

Travel Distance	Cost (WP)
Planetary	40
Inner System to Inner System	50
Inner System to Mid System	70
Inner System to Outer System	120
Mid System to Mid System	90
Mid System to Outer System	90
Outer System to Outer System	150
Interstellar	20/day

Table 117: Space Travel Cost

Spacecraft Travel and Salaried Income

Normally, player characters receive a salary of WP every two weeks, based on their occupation. However, a group of characters operating one or more spacecraft may need to travel for long periods of time. In the Ops & Tactics rules, there is an assumption that player characters will be working as their occupations when not involved in other activities, but if the player characters are officers on a spacecraft, then it is likely the day to day operation aboard that spacecraft is their occupation. However, it can be disruptive, if after every moderate length journey the player characters have acquired large sums of wealth points from their salaries. If a Game Master cares to constrain player character's salaries, they may wish to employ one of the following options.

Extended Pay Periods

While traveling through space, player characters aboard a spacecraft receive salary payments at a reduced frequency. Given that their basic sustenance and living arrangements are provided by Capital, characters don't want for basic needs and likely won't have any opportunity to purchase items, it may be that player characters only receive salaries four, eight, or more weeks apart. Alternatively, they may only receive a salary payment for a journey after the spacecraft arrives at a suitable location, like a space port. In some cases it may be suitable for time spent traveling through space to not award salary payments at all.

No Salary

Some Campaigns may see the player characters traveling far and wide, relying on their own efforts and goals to provide for themselves. They may be mercenaries, traders, or explorers, but they're entirely independent. When providing no salary to player characters, they are entirely reliant on their own deals, the spoils of combat, and other fleeting opportunities for their income.

Capital Gains

It's expected that player characters will want to gain more capital over the course of a campaign, in order to purchase more and larger spacecraft or upgrade their existing ones. Some common ways of gaining capital are provided here as a reference for Game Masters running spacecraft focused campaigns.

From Combat Encounters

External Capital is a representation of outside parties willingness to do business with you. Those with a storied history of survival and success against malicious actors and other dangerous space dwellers are more able to gain the attention of investors and benefactors and sway them to their own side. The player characters can gain capital from combat, similarly to how they gain experience points. When determining how much capital an organization should gain, consider their battle value as well as the battle value of their enemy.

- **Easy** An easy encounter is one where the player characters have twice or more their enemy's BV.
- **Normal** A normal encounter is one where the player characters have roughly equal BV to their enemies.
- **Challenging** A challenging encounter is one where the enemy have between two and three times the BV of the player characters.
- **Dangerous** A dangerous encounter is one where the enemy have between three and four times the BV of the player characters.

- **Deadly** A deadly encounter is one where the enemy have between four and five times the BV of the player characters.
- **Harrowing** A harrowing encounter is one where the enemy have more than five times the BV of the player characters.

Positive Circumstances include things like the players having useful allies, or the enemies being impaired. Negative circumstances include things that hinder the players, and hazards like nebulae. Extreme circumstances include things that greatly hinder the players, like Ion Nebulae or combat areas filled with minefields.

Encounter Difficulty	Capital Gains
Easy	1
Normal	2
Challenging	4
Dangerous	6
Deadly	8
Harrowing	12

Table 118: Capital Gain from Encounters

Positive Circumstances: Gains × 0.5
Negative Circumstances: Gains × 1.5
Extreme Circumstances: Gains × 2.0

Spacecraft Battle Values

A spacecraft's battle value is based on how much capital it's various components cost. Count the capital cost of all combat relevant components (Excluding the hull, but including the Power Core, Engines, Shields, Weapons, and generally any other component or upgrade that affect a spacecraft's attack, defense, or movement abilities.),add their costs together, and then halve the sum.

From Contracts

A Contract is an agreement to perform some kind of service in exchange for some kind of payment. The payment doesn't necessarily have to be financial in nature to be considered Capital. It may be an agreement from some sovereign power to let you pass freely through it's territory, a faction of pirates agreeing to not target your ships, or influencing some judiciary body to overlook some crime you may have committed. The exact terms of a Contract will vary from contract to contract, and sometimes terms may change unexpectedly, or the Contractor may renege on their side entirely.

From Investments

Spacecraft are not the only form that Hard Capital takes. Liquid Capital can also be spent on Investments. Investments are forms of Hard Capital that produce additional external capital.The amount of capital they provide will depend on several factors, including their scale, their risk, and the amount of capital your organization contributes. When you purchase an investment, that investment provides capital based on it's risk for every 10 capital you've invested in it. If your organization holds a controlling interest in a given investment (51% of total capital or more), increase the capital you gain from that investment by 50%. If you're the sole investor (100% of total capital), double the capital you receive from that investment. Gaining External Capital from investments requires that you visit the given investment periodically to make any capital it's produced available as Liquid Capital.

Investment Scale	Capital	Time	Example
Marginal	10	2 years (96 weeks)	Buying bonds. Opening a savings account.
Modest	20	1.75 years (84 weeks)	Buying real estate, whether on a planet or in space.
Limited	30	1.5 years (72 Weeks)	Starting a planetary business. Building planetary infrastructure, like roads, bridges, and utilities.
Notable	50	1.25 years (60 Weeks)	Building a satellite network around a planet. Starting a business in space.
Substantial	70	1 year (48 Weeks)	Building small space station, Colonizing an inhabitable planet.
Significant	100	10 months (40 weeks)	Building a Spaceport or Space Elevator, colonizing an inhospitable planet or moon, building an FTL Comms Relay.
Grand	250	8 months (32 Weeks)	Building large scale space infrastructure, such as orbital farms or factories, or spacecraft shipyards.
Monumental	500	6 months (24 weeks)	Building a Space Colony or Light Gate
Gamechanging	1000	4 months (16 weeks)	Building an FTL Gate, Terraforming an uninhabitable planet.

Table 119: Investment Levels and Cost

An investment produces a certain amount of capital over a certain period of time. The larger an investment is in scale, the more oversight it requires, and the higher the risk the more likely you are to lose some or all of the investment or profit from various circumstances. Each time an investment would pay out, if it's risk is higher than None, roll D% on the investment outcomes table. If the result requires that you perform some action or risk a penalty, then you have some options. You may immediately liquidate your investment. Liquidating an investment converts it from Hard Capital back to Liquid again. You lose any capital you would have received from the investments' most recent pay period, but retain all of the capital you initially spent on the investment. Alternatively, you may attempt to alleviate the risks affecting the investment. This action can take the form of a skill check based on the type of risk, some task that the organization needs to complete, combat encounters with forces opposed to the investment's success, or other things of the GM's choice. If attempting to resolve an investment outcome, you may not liquidate the investment until the investment outcome is resolved. Attempting to resolve an investment outcome always

has some chance of failure, and if you fail to resolve it, you face the penalty listed in the outcome's description.

- **No Risk** The investment faces no risk of loss during this period.
- **Compliance Risk** Something about the investment doesn't comply with legal or safety regulations, company policies, or industry best practices. Characters will use Knowledge (Business or Civics) or Craft (Structural) to negate the risk. Failure means that the organization loses half (Rounded Down) the capital it would have gained this period as a result of legal fines, fees, or settlements resulting from it's compliance failures.
- **Security and Fraud Risk** The investment is insecure in some fashion and vulnerable to malicious actors. Characters will use Knowledge (Tactics, Streetwise or Technology), or Technology Use to negate the risk. Failure means that the organization loses half (Rounded Down) the capital it would have gained this period as a result of theft, fraud, or embezzlement.
- **Financial Risk** The investment is threatened by shifts in the market, partners failing to meet their obligations, or looming debts. Characters will use Knowledge (Business or Civics) to negate the risk. Failure means that the organization loses all the capital it would have gained this period in order to pay off debts and losses.
- **Reputational Risk** The investment itself, someone directly involved in the investment, or someone tangentially related to it has threatened the good name or standing of the investment. Characters will use Knowledge(Behavioral Sciences, Popular Culture or Theology and Philosophy), Presence or Speechcraft to negate the risk. Failure means that the organization loses half the capital they spent on the investment, as a result of it's business partners or clients' lost support of the investment.
- **Operational Risk** The investment is threatened by damage to physical assets, disruptions in business and systems failure, or severe amounts of Sapient error. Characters will use Craft(Any), Perception, Technology Use, or Treat Injury to negate the risk. Failure means that the organization loses half the capital they spent on the investment, as a result of it's operational losses.
- **Competition Risk** Some other organization is competing for your investment's market or suppliers, or may be attempting a hostile takeover. Characters will use Knowledge (Business, History or Tactics) to negate the risk. Failure means that the organization loses it's investment, though it may be recoverable through other means, such as if the other organization were driven out of the market, or territory.
- **Existential Risk** Some significant event threatens the very existence of your investment, such as a plague, famine, natural disaster, or war. Existential risks could require almost any possible action, and may require large amounts of supplies, and/or multiple difficult combat encounters. Failure results in the total loss of the investment and any capital it would have gained. The investment is likely to be irrecoverable and thus will have to be written off.

Investment and Risk	Capital	Example
None	1	Bonds and Loans, Trade on Commission, Savings Accounts
Low	2	Necessity Goods and Services, Trade in Under-Served or Highly-Secured Markets, Index Funds
Moderate	3	Luxury or Niche Goods and Services, Trade in Typical Interplanetary Markets, Targeted Investments
High	4	Volatile Commodities, Trade in Saturated or Unsecured Markets, Day Trading
Very High	6	Illegal Goods and Services, Trade in Unsanctioned or Unexplored Markets, War Profiteering

Table 120: Investment Risk Levels

Low Risk	Moderate Risk	High Risk	Very High Risk	Investment Outcomes
01-70	01-60	01-50	01-35	No Risk
71-75	61-65	50-55	36-45	Compliance Risk
76-80	66-75	55-60	46-55	Security and Fraud Risk
81-85	76-85	61-65	56-65	Financial Risk
86-90	86-90	66-75	66-75	Reputational Risk
91-95	91-95	76-85	76-85	Operational Risk
96-99	96-99	86-95	86-95	Competition Risk
00	00	96-00	96-00	Existential Risk

Table 121: Investment Risk Types and Possible Outcomes

Risk	Base TN
Low	13
Moderate	16
High	19
Very High	22

Table 122: Investment Risk TN

Risk Type	TN Adjustment
Compliance	+1
Security and Fraud	+2
Financial	+3
Reputational	+4
Operational	+5
Competition	+6
Existential	+7

Table 123: Investment Risk Type TN Modifiers

Investment Scale	TN Adjustment
Marginal	+0
Modest	+1
Limited	+2
Notable	+3
Substantial	+4
Significant	+5
Grand	+6
Monumental	+7
Gamechanging	+8

Table 124: Investment Scale Type TN Modifiers

Creating New Star Systems

Spacecraft would be pointless without places to explore, conquer, and smuggle to. Listed below are rules on how to create new places for the characters to travel to. This guide can be used to generate new planets, locations, and places for characters to visit.

Star Classes

This will determine what kind of star the system has. Stars are spheres of plasma held together by gravity, undergoing fusion. They provide light and heat, both of which are usually required for most life. Most stars fit into what is known as the "Main Sequence".

- **Main Sequence Stars** These commonly encountered stars are separated into classes based on their colors. As a general rule the stars further down on the main sequence table are larger and brighter, but they don't last as long, burning out their supply of hydrogen much faster as they increase in size.
- **Binary Systems** Some Star Systems have a pair of stars orbiting each other. Roll d% on the main sequence table twice to determine their types. If you roll binary or trinary system again, add 1 or 2 more stars to the system.
- **Trinary Systems** Some Star Systems have three stars orbiting each other. Roll d% on the main sequence table three times to determine their types. If you roll binary or trinary system again, add 1 or 2 more stars to the system.
- **Giant Star** The Star System is home to a giant, super giant, or hyper giant star. Roll D% on the main sequence table to determine it's color. Star Systems around a giant star tend to be much more spread out than around smaller stars. Travel times are multiplied by 2 for giant stars, 4 for super giants, and 8 for hyper giants.
- **Wolf Rayet Star** These Giant stars are nearing the end of their life, having exhausted their hydrogen supply. They are in the process of shedding most of their material. Wolf-Rayet stars create their own nebulae, and their intense solar winds can affect travel in unpredictable ways. Sublight Travel times are D%+50% of their normal time, rounded to the nearest day.
- **Brown Dwarf** Brown Dwarfs aren't proper stars at all, having never become massive enough to fuse hydrogen in their cores. Being basically overgrown gas giants, Brown Dwarfs give off almost no light and very little heat. Any planets in their orbit are likely to be frozen.
- **White Dwarf** White Dwarfs are the remnants of medium sized stars that have fused all their hydrogen and lost almost all of their material. They're effectively the bare remains of a star's core.
- **Neutron Star** These are the remains of massive stars that exploded in a supernova. Their remaining mass is packed together so tightly that their atoms have degenerated into mostly neutrons.
  - **Magnetars** Magnetars are Neutron Stars that are rotating extremely quickly, and which have incredibly strong magnetic fields. Magnetars are often surrounded by Ion Nebulae, and can occasionally produce Starquakes, which rank among supernovae as some of the most violently powerful events in the universe.
- **Black Hole** Black Holes are what result when an incredibly massive star goes supernova and it's core collapses into a singularity, a single point in space with no length or width. Black Holes are surrounded by an 'Event Horizon', a roughly spherical boundary which, once passed, not even light can escape. A spacecraft that passes a black hole's event horizon is lost forever, along with whatever and whoever was on board. Not even an FTL engine allows a spacecraft to escape. Beyond the event horizon, space is so warped that there is only one direction: Towards the singularity. Fortunately, and contrary to popular belief, black holes do not suck things into them, objects must fall in. If there is a lot of material falling into a black hole, it often forms an accretion disk, a large spiral of gas and dust, superheated from extremes of friction.
  - **Stellar Mass Black Hole** These are formed when the largest stars die in massive supernova explosions, or when two neutron stars collide.
  - **Super-massive Black Hole** These incredible objects exist at the center of galaxies, and are thought to play a role in their formation. However, galaxies frequently collide and get mixed up. It would not be out of the question for some galaxies to contain multiple rogue super-massive black holes roaming their reaches as leftovers from previous galactic mergers.

Star Class and Color	D% Roll
M Class (Red)	01-50
K Class (Orange)	51-65
G Class (Yellow)	66-75
F Class(Yellow-White)	76-80
A Class(White)	81-85
B Class(Blue-White)	86-90
O Class(Blue)	91-95
Other	96-00

Table 125: Main Sequence Star Classes

Other Stars	D% Roll
Binary System	1-10
Trinary System	11-15
Giant Star	16-30
Wolf-Rayet Star	31-35
Brown Dwarf	36-75
White Dwarf	76-85
Neutron Star	86-95
Black Hole	96-00

Table 126: Other Star Classes

Planet Quantity

A star frequently has multiple planets orbiting it. Consult the following table to determine how many planets a typical star system might contain. There are of course exceptions, and the game master is free to add as many or as few planets to a star system as they desire. For a binary or trinary system, roll for each class of star, take the highest number, and then add +2 or +4.

Star Class	Planets
M Class	1d4
K Class	2d4
G Class	3d6
F Class	3d6
A Class	4d6
B Class	4d6
O Class	5d6
Brown Dwarf	1d2
Wolf-Rayet	2d3
Binary	+2
Trinary	+4
Giant	x2
Remnant Star	1d3

Table 127: Star Planet Quantity

Planets

Spacecraft would be pointless without places to explore, conquer, and smuggle to. Listed below are rules on how to create new planets for the characters to travel to. This guide can be used to generate new planets, locations, and places for characters to visit. Nearly every planet that is encountered will be orbiting a star of some type. Planets have many possible qualities, which are often interrelated. To create a new planet, make a series of D% rolls on the following tables in the order specified. When generating a planet, take note of each D% roll, as qualities decided early on can have effects on rolls made later. Creating enough planets to populate a star system can take some time, so a Game Master should consider preparing some in advance if they might be required.

Location

A Planet's location is it's distance from it's star. Planets closer to their star will receive more light and heat.

Location	D% Roll
Inner System	1-33
Mid System	34-66
Outer System	67-00

Table 128: Planet Location

Size

A planet's size has a very large effect on it's environment, affecting it's gravity, and thus the thickness of the atmosphere it can attract and hold on to. Their size also affects their rate of rotation and how many moons they might attract. The names of the sizes are purely descriptive, and have no strict absolute size associated with them.

- **Fine** These dwarf planets are barely large enough for their gravity to form them into a spheroid shape. An example of a Fine planet would be the dwarf planet Ceres.
- **Diminutive** An example of a Diminutive planet would be the dwarf planet Pluto.
- **Tiny** An example of a Tiny planet would be Mercury.
- **Small** An example of a Small planet would be Mars.
- **Medium** Medium planets have roughly normal gravity for humanoids. They're generally rocky or metallic worlds and may have normal to dense atmospheres. An example of a Medium planet would be Venus.
- **Large** An example of a Large planet would be Neptune.
- **Huge** An example of a Huge planet would be Saturn.
- **Gargantuan** Gargantuan encompasses very large gas giants, as well as extremely massive terrestrial worlds, such as very large iron-rich planets. An example of a Gargantuan planet would be Jupiter.
- **Colossal** Colossal encompasses the most massive planets, which are almost always gas giants of tremendous sizes. A gas giant of this size, if it were not orbiting another star, would be considered a brown dwarf. Objects larger than this can no longer be considered planets, being large enough that hydrogen starts to fuse in their cores, and are thus stars.

Planet Size and Approximate Diameter	D% Roll
Fine	1-20
Diminutive	21-40
Tiny	41-50
Small	51-60
Medium	61-70
Large	71-80
Huge	81-90
Gargantuan	91-95
Colossal	96-00

Table 129: Planet Sizes

Planet Atmosphere

A planet's atmosphere is primarily affected by it's size, but can also be affected by it's star, if they're particularly active. Adjust the d% roll by 10 for every size category the planet differs from small, reducing the result if it's smaller and increasing it if it's larger. A planet orbiting a wolf-rayet star has likely had much of it's atmosphere blown off by intense solar winds. In this case, reduce the result by 40 if the planet is in the inner system, by 20 if it's in the mid system, and by 10 if it's in the outer system.

- **Vacuum** The planet has no appreciable atmosphere. Characters on it's surface require spacesuits to survive.
- **Thin** The planet's atmosphere is very thin. Characters on it's surface require at least an air supply(through an emergency air supply or space suit) or a condenser-diluter to survive.
- **Average** The atmosphere is within the range of pressures suitable for humanoid life. If the atmosphere is breathable (Oxidizing), characters require no additional equipment to survive.
- **Dense** The atmosphere is particularly dense. Characters require a condenser-diluter in order to breathe.
- **Jovian** The planet is covered by an extremely thick and dense atmosphere. Planets with Jovian atmospheres are either Gas Giants or Gas Dwarfs. While their upper atmospheres can be traversed, a spacecraft that falls into their depths will likely be crushed by atmospheric pressures.

Atmosphere Density	D% Roll
Vacuum	20 or less
Thin	21-30
Average	31-70
Dense	71-80
Jovian	81 or more

Table 130: Planet Atmosphere Density

After determining the density of the atmosphere, roll to determine it's type. Dense atmospheres add +30, and Jovian atmospheres add +75 to this roll.

- **Reducing** Reducing Atmospheres are composed of reducing gasses like hydrogen, nitrogen, and argon. Reducing atmospheres have very little, if any, oxygen, but have many industrial applications. Characters in reducing atmospheres require an air supply(through an emergency air supply or space suit) .
- **Oxidizing** An oxidizing atmosphere has significant quantities of Oxygen. Oxidizing atmospheres are breathable by humanoids.
- **Tainted** Tainted atmospheres contain gases toxic to humanoids. Characters in tainted atmospheres require an air supply(through an emergency air supply or space suit) .
- **Corrosive** Corrosive atmospheres are atmospheres that are actively corrosive and will damage anyone not sufficiently protected. Corrosive atmospheres damage all creatures and objects with less than 10 hardness, dealing 3d6 acid damage every minute they spend in the atmosphere without protective gear. Any spacesuit that protects against plasma damage will provide protection against corrosive atmosphere.
- **Greenhouse** Greenhouse atmospheres are comprised of large quantities of insulating gases, like carbon dioxide. Characters in greenhouse atmospheres require an air supply(through an emergency air supply or space suit), but planets with with these atmospheres are commonly too hot for most characters to survive.
- **Solar** Solar atmospheres are similar in composition to stars, comprised of roughly 90% hydrogen and 10% helium. Gas Giants commonly have Solar atmospheres.

Atmosphere Type	D% Roll
Reducing	1-30
Oxidizing	31-50
Tainted	51-55
Corrosive	56-60
Greenhouse	61-75
Solar	76 or more

Table 131: Planet Atmosphere Type

Temperature

A planet's temperature is dependent on it's distance from and the brightness of it's star, as well as the thickness and composition of it's atmosphere. These represent global average temperatures. The specific temperature at any point on a planet can vary based on numerous factors such as time of day, season, weather, etc. Planets in the inner system receive -10 on this roll. Planets with Dense Atmospheres receive -20, and planets with greenhouse atmospheres receive -30. Planets in the mid system receive +20 and the outer system receive +30. Planets with thin atmospheres receive +20, and those with no atmospheres receive +30.

- **Molten** Molten planets are extraordinarily hot. Their surfaces may contain features such as rivers of molten lead, or iron, or entire oceans of magma. Only creatures that are completely immune to fire could possibly survive on such planets, while humanoids and synthetics would be killed immediately and be reduced to piles of ash and slagged metal within minutes.
- **Extremely Hot** Extremely hot planets have average temperatures above 45C/113F. These planets may be very close to their star, having very active geothermal heat

sources, and/or thick atmospheres that keep the heat that reaches them from leaving. Extremely hot planets are tolerable to races adapted to the heat, but dangerous to others.

- **Very Hot** Very Hot planets have average temperature between 36C/96F and 44C/111F. They're ideal for races adapted to heat, but intolerably hot for others without special preparations.
- **Hot** Hot planets have average temperatures between 28C/81F and 35C/95F. They are ideal for races adapted to hot environments, and tolerable for many others.
- **Mild** Mild planets have average temperatures between 11C/51F and 27C/80F. They require no additional equipment to survive and are ideal for most humanoid races.
- **Cold** Cold planets have average temperatures between -34C/-29F and 10C/50F. Cold Planets are ideal for races adapted to the cold, and tolerable for many others.
- **Very Cold** Very Cold planets are icy worlds featuring temperature between -89C/-128F and -35C/-31F over most of the surface, with only small regions being slightly warmer. They're ideal for races adapted to the cold, but intolerably cold for others without special preparations.
- **Extremely Cold** Extremely Cold planets are icy snowball worlds, featuring temperatures below -90C/-130F. They're tolerable only to humanoid races that are adapted to the cold, being dangerous for others.
- **Frozen** Frozen planets are as cold as space. Characters on Frozen worlds must live in specialized shelters or spacecraft, and can only venture outside with spacesuits or similar special protections against the cold.

Temperature	D% Roll
Molten	20 or less
Extremely Hot	21-25
Very Hot	26-35
Hot	36-45
Mild	46-55
Cold	56-65
Very Cold	66-75
Extremely Cold	76-80
Frozen	81 or more

Table 132: Planet Temperature

Hydrosphere

A planet's hydrosphere is a measurement of how much water is on the planet, and how much land is on the planet. Water on a planet can take different forms depending on the pressure and temperature. Planets with thin or vacuum atmospheres may be rich in water, but will only have water in the form of Ice, lacking the pressure for liquid water or water vapor to exist.

- **Desert** Desert type planets are planets that are void, or near void of any surface water and most underground water, but can have frozen icecaps on the poles.
- **Dry** Dry type planets are planets that contains water but is low in measurement. It may have pockets of water or oasis's, in addition to frozen icecaps.
- **Balanced** Balanced type planets are planets that has some water, and may contain at least one ocean, but will also contain a significant amount of land mass.
- **Wet** Wet planets are planets with a significant amount of water. They will contain at least one major ocean.
- **Water** Water type planets will be comprised nearly completely with water. They may have small islands dotting its surface.

Hydrosphere	D% Roll
Desert Planet	1-5
Dry Planet	6-25
Balanced Planet	26-50
Wet Planet	51-90
Water Planet	91-100

Table 133: Planet Hydrosphere

Orbiting Bodies

Moons and Ring systems can have large effects on a planet's ecology and economy, affecting them with tidal forces and often providing abundant resources to any space industries operating around the planet. Larger planets will tend to have both more and larger orbiting bodies than smaller ones, owing to their larger influence of gravity. Generally, roll on this table once for medium and smaller planets, and roll one additional time for each size the planet is above medium. When a Medium or Large planet rolls a moon, increase it's size by 1 category, while if a Huge or larger planet rolls a moon, increase it's size by 2 categories. No planet may have a moon that is larger than itself.

Orbiting Body	D% Roll
Fine Moon	1-20
Diminutive Moon	21-40
Tiny Moon	41-60
Rocky Ring	61-70
Icy Ring	71-80
Metallic Ring	81-90
Roll Twice	91-00

Table 134: Orbiting Bodies

Population

Population is how many sentient beings are living on the planet in a permanent or semi-permanent status. How this population lives is highly influenced by the hydrosphere, the size, and the atmosphere of the planet. There are a multitude of ways a population can live on a planet, and it is highly encouraged for a GM to provide a reasonable or plausible way for the population to live on or around the planet. This population also includes any space stations that may be orbiting the planet, or any ships of permanent, or semi-permanent orbit around the planet.

- **Barren** This planet has less than 10 people who live on it. Because of the small amount of people on the planet, it usually has no officially recognized government or political structure.
- **Very Low** This planet has between 10 and 1,000 people who live on it.
- **Low** This planet has between 1,000 and 10,000 people who live on it.
- **Moderate** This planet has between 10,000 and 1,000,000 people who live on it. With smaller planets, they may live underground, in highly urbanized areas, or even in the atmosphere on various space stations.
- **High** This planet has between 1,000,000 and 1,000,000,000 who live on it. Smaller planets will almost always have highly congested, highly urbanized areas, and orbiting space stations.
- **Very High** This planet has between 1,000,000,000 and 10,000,000,000 people who live on it. Smaller planets will have overcrowding, urbanization, and compartmental living.
- **Extremely High** This planet has between 10,000,000,000 and 50,000,000,000 people who live on it. Smaller planets will have overcrowding, urbanization, and compartmental living, as well as underground living.

Population	D% Roll
Barren	1-5
Very Low	6-15
Low	16-30
Moderate	31-85
High	86-95
Very High	96-99
Extremely High	100

Table 135: Population

Infrastructure

Infrastructure is the measure of the level of space level infrastructure a planet has. This determines what space services may or may not be available on the planet.

- **None** The planet has no artificial structures or objects orbiting in, nor do they have the means to launch them from the planet's surface.
- **Minimal** The planet has one or more artificial satellites launched from the surface, but nothing else.
- **Minor** The planet has numerous artificial satellites, they may have spacecraft that can travel at planetary scales, and they have at least one outpost in space.
- **Average** The planet has abundant satellites, spacecraft, and at least one space station that can provide standard repair services, ammunition restocking, and other common spacecraft services.
- **Major** The planet has a thriving space industry that is supported by multiple space stations, and is capable of constructing very large objects and spacecraft in orbit. Frequently they will also have established presences on any moons orbiting the planet.
- **Significant** The planet has numerous space stations and multiple orbital ship yards to construct spacecraft. Moon bases will frequently be the size of large metropolitan cities, with thriving economies. At this scale, a planet will have one or more light gates in orbit.
- **Fully Developed** The planet can build entire fleets of spacecraft in parallel. More people live in space, in space colonies and on any bodies orbiting the planet, than live on the planet itself. Planets with Fully Developed space infrastructure will have at least one FTL gate and one or more light gates orbiting it.

Infrastructure	D% Roll
None	1-5
Minimal	6-15
Minor	16-30
Average	31-40
Major	41-50
Significant	51-75
Fully Developed	76-00

Table 136: Infrastructure Level

Types of Space Infrastructure

Locations and environments here include various satellites, gates, space stations, and other places that have been put in place by sentient races for various reasons.

Gates

A gate is a large, circular ring floating in space that allows a spacecraft to travel long distances in a relatively short time. Gates are the main stations for moving around the galaxy and the universe. There are multiple types of gates, each with their own function. Most gates are unidirectional, having an entrance gate and an exit gate, used to relieve the flow of traffic. Gates in smaller, less populated areas where traffic is low will have a bidirectional gate, that allows for travel in both directions.

Light Gates

A light gate is a gate that accelerates any ship that flies within it to the speed of light, allowing it to travel at light speed without a light engine. These gates, due to their short range, are often numerous in star systems, allowing a ship to navigate the local star system with ease.

FTL Gates

An FTL Gate is a gate that holds open a wormhole that allows a ship to travel through, and emerge from the other side, defeating the travel paradox issue of traveling the speed of light directly. These gates are often major hubs, with exits being anywhere from 5 lightyears to 100 lightyears away from their entrance. They

are used for long distance travel, traveling between solar systems, strategic points, and major hubs.

Space Stations and Outposts

A Space Station is a large structure that is used for everything from a rest stop to market. The types are numerous, but nearly all of them have docks for Spacecrafts, as well as food and drink merchants. Most will have more than that, including weapons and trader merchants, as well as distractions from the monotony that space can bring on. Space stations typically allow for the purchase, sale of, and installation of spacecraft components and upgrades, as well as standard repair services and the replenishment of ammunition and sustenance. Outposts are smaller versions of space stations, usually privately owned and smaller in size. Outposts allow for standard repair services and the replenishment of consumables like Ammunition, but most are not equipped for the purchase of spacecraft or their components. A Space Elevator is a space station or outpost that is connected to the surface of a planet or moon by an extremely long tether. Space elevators require advanced materials like Carbon Nanotubes to create, but allow a character on the surface of the planet to travel to and from the space station without requiring a space craft. A Space Colony is an extremely large space station that serves as living space, farmland, or various other purposes for an extremely large number of people. A classic space colony design consists of two connected cylinders, which are arranged in parallel with one cylinder rotating clockwise, and the other rotating counter clockwise. Each cylinder is typically ~3 kilometers wide, and may be anywhere from 6 up to 24 kilometers long.

Other Objects

Artificial Satellites

Satellites are bodies that are orbiting another object in a star system. Artificial Satellites are such objects created by sapient beings. They can serve various purposes.

- **Communications Satellite** The most common type of artificial satellite, these are used for broadcasting or transmitting data, but can have other functions as well, such as space telescopes.
- **Defense Satellite** These satellites are armed with anti-spacecraft or sometimes Ant-planetary weaponry. They're typically controlled from a planet's surface or a space station, and might be used to protect a planet against outside threats, or used as weapons against eachother by sovereign powers sharing the same planet.
- **FTL Comms Relay** Similar to communications satellites, but requring much more advanced technology. These satellites transmit information between star systems.
- **Beacons** Beacons are satellites that emit specific information, usually comprised of location coordinates and information about the system, as well as known hazards.

Government

Government denotes what kind of governing system the planet has, as well as how its politics function within that government. Planets can have multiple states, counties, or continents with multiple forms of government.

Sovereign States

Sovereign states denote how many recognized, sovereign states are on the planet. There may be more states, but they are not officially recognized.

- Singular The planet has a singular sovereign state that rules uncontested over the planet.
- Few The planet has a few sovereign states, usually anywhere from 2-10, on the various landmasses or areas of the planet.
- Some The planet has a moderate number of sovereign states, usually anywhere from 10-50.
- Many The planet has many sovereign states, with more than 50 states claiming legitimacy on the planet.

Sovereign States	D% Rolls
Singular	1-20
Few	21-50
Some	51-80
Many	81-100

Table 137: Sovereign States

Governmental Power Source

The governmental power source is how a government organizes and focuses its power and decision making.

Government Type	D% Roll
Autocracy	1-15
Oligarchy	16-30
Republicanism	31-45
Democracy	46-60
Panocracy	61-75
Chaos	76-100

Table 138: Governmental Power Source

Autocracy

An autocracy is a government ruled by a single person, who has all of the ruling and decision making power. An autocrat's word is law and rule.

Oligarchy

An oligarchy is a government ruled by a small group of people. How they came into power or maintain power varies on the oligarchy.

- **Aristocracy** Aristocracy is a form of government that places the power of government in the hands of a privileged ruling class, who make decisions for the common classes.

- **Bureaucracy** Bureaucracy is a form of government where most, to all of the important decisions are made by non-elected officials. They are marked by being formulaic, inefficient, complex, and inflexible.

- **Feudalism** Feudalism is a form of government where the holders of land rule over those that work their land in exchange for safety, the use of it for their own food growth, and living space. Those that own the land receive the bulk of the product of the land worked, which can be used for their own personal use and the excess sold off for profit.

- **Military Junta/Military Dictatorship** A military dictatorship is when the highest member of the military holds the most control over the government. A junta is different from this, in which power is shared by multiple high level members of the military.

- **Monarchy** A monarchy is a system of government where the rule of government is identified and passed down by bloodlines and families, rather than elections or selections. Reign usually lasts until the death of the current ruling monarch.

- **Stratocracy** A stratocracy is a system of government where military leaders are in charge of the government. It is similar to a military junta, but there is usually no difference between the military and the government; officials are officers, not elected officials.

- **Technocracy** A technocracy is a system of government where the decision makers are selected on the basis of technological expertise. This knowledge can be in weapons, engineering, farming, or a multitude of other forms of knowledge, based on the society and what it values.

- **Technologically Elevated Dictatorship** A T.E.D. is a system of government where a small few rule over a large majority through technological advancement, which is very heavily guarded. The advances may include anything from simple modern marvels such as matches and lighters all the way to armors that make traditional weapons on the planet ineffective. T.E.D. are usually very guarded about visitors on the planet, so as to keep their control by not introducing the advanced technology to the populace.

- **Theocracy** A theocracy is a system of government where religious leaders head and run the government.

- **Timocracy** A timocracy is a system of government where only those who own real property, such as land or real estate, may participate in government. This usually encompasses voting, holding office, and participating in political discourse.

Oligarchy	D% Roll
Aristocracy	1-10
Bureaucracy	11-20
Feudalism	21-30
Military Junta/Military Dictatorship	31-40
Monarchy	41-50
Stratocracy	51-60
Technocracy	61-70
Technology Elevated Dictatorship	71-80
Theocracy	81-90
Timocracy	91-100

Table 139: Oligarchy Table

Republicanism

A republic is a government ruled by a group of elected representatives.

- **Democratic Republic** A democratic republic is a bit of a hybrid style of government, which is both democratic and republican. Officials are elected by the populace to represent the people and make decisions for them.

- **Limited Monarchy** A limited monarchy is a form of government where the governing powers of the monarch are limited by a framing document, such as a constitution. Such systems will have a monarch, and an elected form of government and each reserve powers of government.

Republicanism Type	D% Roll
Democratic Republic	1-50
Limited Monarchy	51-100

Table 140: Republicanism Table

Democracy

A democracy is a government ruled by large groups of people, usually through vote.

- **Pure Democracy** Pure democracy is a form of government where everyone rules. If a leader is present it is only for major things such as rule implementation, as nearly all regulations and laws are voted on by all citizens.

- **Ochlocracy** An ochlocracy is a form of government where the mob rules. Anyone who is a part of the minority is intimidated, removed, or re-educated.

- **Polyarchy** A polyarchy is a form of government where power is invested in a very large group of people, who then vote on various policies.

- **Stochocracy** A stochocracy is a form of government where the leaders are chosen by a lottery, instead of voting.

Democracy Type	D% Roll
Pure Democracy	1-25
Ochlocracy	26-50
Polyarchy	51-75
Stochocracy	76-100

Table 141: Democracy Table

Panocracy

A panocracy is a government ruled by everyone.

- **Anarchy** Anarchy is a form of government where there is no officially recognized government or power structure at all. These are usually extremely unstable and do not last very long, drifting into another form of government after a short period.

- **Sociocracy** Sociocracy is a form of government where decision making is made by various individuals, who work out solutions to problems that are beneficial for all those involved.

Panocracy Type	D% Roll
Anarchy	1-40
Sociocracy	41-100

Table 142: Panocracy Table

Chaos

Chaos is a special form of government where there are no leaders, and no power distribution at all. All chaos power structures are barbarism.

- **Barbarism** Barbarism is the lack of any government. Barbaric societies usually default to the strongest, best armed, or toughest person or groups of people.

Law Levels

Law levels denote what is acceptable to the political leaders of the world. While there are multitudes of cultural laws that can exist on a planet that can restrict literally any action or any kind of item possession, these levels focus specifically on weapon possession, use, and carrying. Military and Police are almost always exempt from these laws, but can be influenced by them.

- **Unrestricted** There are no laws or restrictions on carrying weapons for self- defense. Any weapon may be carried or used in defense of life. Known criminals can, and usually do, carry weapons openly.

- **Very Lightly Restrictive** Explosives and indiscriminate weapons, such as land mines and traps are illegal for self-defense, but all other weapons are legal for defense. Known criminals can, and usually do, carry weapons openly.

- **Lightly Restrictive** Explosives and indiscriminate weapons, such as land mines and traps are illegal for self-defense, but all other weapons are legal for defense. Criminals convicted of major crimes such as murder or assault are unable to carry weapons legally.

- **Moderately Restrictive** Self defense weapons are limited to firearms, plasarms, lasarms, elarms, and melee weapons. Criminals convicted of major crimes such as murder or assault and certain minor crimes are unable to carry weapons legally.

- **Heavily Restrictive** The carrying of weapons is by permit only, which is a shall issue. Anyone who is not a criminal may acquire a permit, and self- defense weapons are limited to semi-automatic firearms, plasarms, lasarms, elarms, and melee weapons.

- **Very Heavily Restrictive** The carrying of weapons is by permit only, which is a may issue dependent on the issuing party, and when issued, only handguns and melee weapons may be carried for self-defense. Criminals and undesirables are unable to acquire permits.

- **Extremely Restrictive** The carrying of weapons is by permit only, which is a may issue dependent on the issuing party, and when issued, only less- lethal weapons may be carried for self-defense. Criminals and undesirables are unable to acquire permits.

Law Levels	D% Roll
Unrestricted	1-15
Very Lightly Restrictive	16-30
Lightly Restrictive	31-45
Moderately Restrictive	46-60
Heavily Restrictive	61-75
Very Heavily Restrictive	76-90
Extremely Restrictive	91-100

Table 143: Law Level Table

Chapter VII

Plasmasmithing

A plasmasmith is a person who repairs, modifies, designs, or builds plasarms, lasarms or elarms. This occupation is different from an armorer. The armorer primarily maintains (disassembly, cleaning) weapons and performs limited repairs involving parts replacement and possibly as difficult terrain work involving accurization. A plasmasmith does factory level repairs, renovation (such as applying metal finishes), and makes modifications and alterations for special uses. Plasmasmiths may also apply carvings, engravings and other decorative features to an otherwise finished plasarm, lasarm or elarm. Plasmasmithing falls under Craft (Electronics), and all the rolls and TNs are for that skill.

Damage	Wattage	Category
1d8–2	10 kW	1st
1d8	15 kW	2nd
1d8+1	25 kW	3rd
2d8	35 kW	4th
2d8+1	40 kW	5th
2d8+2	45 kW	6th
3d8	50 kW	7th
3d8+2	65 kW	8th
3d8+3	75 kW	9th
4d8	90 kW	10th
4d8+2	100 kW	11th
4d8+4	120 kW	12th
5d8	135 kW	13th
5d8+3	165 kW	14th
6d8+2	180 kW	15th
7d8+1	200 kW	16th

Table 144: Damage and Category by Wattage

Crafting a Brand New Plasarm, Lasarm or Elarm

When crafting a new plasarm, lasarm or elarm, a character must first pick what current category the weapon would fit into, or the best case. Aspects such as wattage, emitter type and range, and size, can all play into this.

When crafting a plasarm, lasarm, or elarm, a character must meet the minimum requirements for wattage and a weapon must have enough Heat for a single shot of the least heat conductive emitter. Crafted weapons still have to follow the rules of standard upgrades.

> Example: *If a plasarm has a minimum of 2nd category and the cost is +2 TN per category, then the minimum base TN would be 8+2+2.*

All crafted plasarms, lasarms, or elarms can use all types of Coolant packs.

The GM decides, based on the weapon the players want to craft, what the size and weight of it would be.

The category of a plasarm, lasarm, or elarm is determined by its size, wattage, and Heat rating. Below are some general examples of what each category represents.

Crafting any plasarm, lasarm, or elarm has a base TN of 8, and the WP cost for the created plasarm, lasarm, or elarm is 1/2 of the total TN.

Each listed kW rating on the plasma damage table is considered a category. 10 kW being the 1st category and 100 kW being the 11th category.

Building a Plasma Blade

Characters with the ability can choose to build their own personal plasma blades as opposed to buying one or having one commissioned.

Building a plasma blade is governed under the Craft (Electronics) skill.

A character without an electronics tool kit takes a –6 penalty on Craft (Electronics) checks.

When building a plasma blade, a bladesmith first chooses what kind of plasma blade they wish to create.

Weapon	TN	Damage Type	Material Cost	Time
Standard Hilt	15	Plasma	12	5 days
Curved Hilt	16	Plasma	14	5 days

They then chose the wattage, which controls the default heat for the plasma blade, and the TN for the plasma blade.

Wattage (Damage)	Heat	TN Modifier
10 kW (1d8–2)	45	–6
15 kW (1d8)	40	–4
25 kW (1d8+1)	35	–2
35 kW (2d8)	30	+0
40 kW (2d8+1)	25	+5
45 kW (2d8+2)	20	+9
50 kW (3d8)	15	+15
65 kW (3d8+2)	10	+17
75 kW (3d8+3)	5	+22

Personalized Plasma Blade

A personalized plasma blade is built from the ground up for a particular individual, based on the user's preference, size, and other specifications. A bladesmith may craft a personalized plasma blade for anyone at their request, but the user must be proficient in the weapon in order to gain the benefit. A personalized weapon grants a +4 attack bonus, and a +1 damage bonus. Anyone who is not the intended user of the weapon incurs a –4 attack penalty. When crafting a personalized weapon, the TN for the weapon is increased by 10, the raw material wealth point cost is increased by 4× and the time is tripled.

Performing Upgrades

A bladesmith may perform upgrades to weapons at half the cost of the price of a normal upgrade, rounded up. The TN to perform an upgrade is 18, and takes the normal amount of time it takes to perform the upgrade.

Extra Upgrade Slots and Built-in Upgrades

A plasma blade may be crafted with extra slots for melee weapon upgrades. This increases the TN by 5 per upgrade slot, with a maximum of 2 extra upgrade slots. The WP cost is doubled and the time increases by a day. A weapon may also be crafted with the upgrades already built in, taking up the slot that it would normally

take when upgrading it as normal. The upgrade costs the same amount as it would to normally upgrade but only takes half the time, and the TN to craft the weapon is +1 per upgrade.

Building Laser, Plasma, and Electric Weapons

Laser Handguns

Laser handguns range in size, from Tiny to Medium. They have a wattage range anywhere from 10 kW all the way to 65 kW. Their range increments are usually between 15-30', but having longer ranges is not unheard of. The initial Heat rating is very dependent on the size of the lasarm.

Type	Heat	Wattage	Range	Emitters
Tiny Laser Pistol	Base: 8 +1 TN per every 1	+2 TN per category (Max 8th category) –5 Heat per category	+2 TN per every 5' over 15' (Max 30')	**Standard** Free **Charge** +9 TN **UV** +7 TN
Small Laser Pistol	Base: 13 +1 TN per every 1	+2 TN per category (Max 8th category) –4 Heat per category	+2 TN per every 5' over 20' (Max 30')	**Standard** Free **Charge** +9 TN **Scour** +10 TN **Focus** +9 TN **Grid** +14 TN **Pulse** +13 TN **UV** +7 TN
Medium Laser Pistol	Base: 13 +1 TN per every 1	+2 TN per category (Max 8th category) –4 Heat per category	+1 TN per every 5' over 10' (Max 40')	**Standard** Free **Charge** +9 TN **Scour** +10 TN **Focus** +9 TN **Grid** +14 TN **Pulse** +13 TN **UV** +7 TN

Table 145: Plasmasmithing, Laser Handguns

Plasma Handguns

Plasma handguns range in size, from Tiny to Medium. They have a wattage range anywhere from 10 kW all the way to 40 kW. Because of their intended use, they tend to have Stun and Charge emitters, but some are constructed with other kinds. Their range increments are usually between 15-40', but having longer ranges is not unheard of. The initial Heat rating is very dependent on the size of the plasarm.

Type	Heat	Wattage	Range	Emitters
Tiny Plasma Pistol	Base: 10 +1 TN per every 1	+2 TN per category (Max 5th category) –5 Heat per category	+2 TN per every 5' over 15' (Max 40')	**Standard** Free **Charge** +9 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +12 TN **Wave** +15 TN **Pulse** +13 TN **Stun** +8 TN **Glow** +6 TN
Small Plasma Pistol	Base: 20 +1 TN per every 1	+2 TN per category (Max 5th category) –4 Heat per category	+2 TN per every 5' over 20' (Max 40')	**Standard** Free **Charge** +9 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +12 TN **Wave** +15 TN **Stun** +8 TN **Glow** +6 TN **Power Conserve** +10 TN **Grid** +14 TN **Pulse** +13 TN **Arc** +14 TN **Extended Range** +14 TN
Medium Plasma Pistol	Base: 20 +1 TN per every 1	+2 TN per category (Max 5th category) –4 Heat per category	+1 TN per every 5' over 10' (Max 50')	**Standard** Free **Charge** +9 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +12 TN **Wave** +15 TN **Stun** +8 TN **Glow** +6 TN **Power Conserve** +10 TN **Grid** +14 TN **Pulse** +13 TN **Arc** +14 TN **Extended Range** +14 TN

Table 146: Plasmasmithing, Plasma Handguns

Electric Handguns

Electric handguns range in size, from Tiny to Medium. They have a wattage range anywhere from 10 kW all the way to 90 kW. Their range increments are usually between 15-40'. The initial Heat rating is very dependent on the size of the elarm.

Type	Heat	Wattage	Range	Emitters
Tiny Electric Pistol	Base: 5 +1 TN per every 1	+2 TN per category (Max 10th category) –3 Heat per category	+2 TN per every 5' (Max 30')	**Standard** Free **Fan** +7 TN **Ball** +13 TN **EMP** +13 TN
Small Electric Pistol	Base: 8 +1 TN per every 1	+2 TN per category (Max 10th category) –2 Heat per category	+2 TN per every 5' over 10' (Max 40')	**Standard** Free **Fan** +7 TN **Ball** +13 TN **EMP** +13 TN
Medium Electric Pistol	Base: 12 +1 TN per every 1	+2 TN per category (Max 10th category) –2 Heat per category	+1 TN per every 5' over 10' (Max 45')	**Standard** Free **Fan** +7 TN **Ball** +13 TN **EMP** +13 TN

Table 147: Plasmasmithing, Electric Handguns

Plasma Sub-machine Guns

Plasma sub-machine guns are generally sized between Medium and Large, usually with a wattage level from 25 kW all the way to 45 kW. They often sport multiple emitters, such as Pulse and Grid emitters, to supplement a big advantage over plasma pistols.

Type	Heat	Wattage	Range	Emitters
Medium Plasma SMG	Base: 25 +1 TN per every 1	+2 TN per category (3rd-6th category) –5 Heat per category after the 3rd	+2 TN per every 5' over 25' (Max 55')	**Standard** Free **Charge** +9 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +8 TN **Wave** +12 TN **Stun** +5 TN **Glow** +4 TN **Power Conserve** +10 TN **Grid** +8 TN **Pulse** Free **Arc** +14 TN **Extended Range** +12 TN
Large Plasma SMG	Base: 35 +1 TN per every 1	+2 TN per category (3rd-6th category) –5 Heat per category after the 3rd	+2 TN per every 5' over 25' (Max 55')	**Standard** Free **Charge** +7 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +10 TN **Wave** +10 TN **Stun** +5 TN **Glow** +4 TN **Power Conserve** +6 TN **Grid** +6 TN **Pulse** Free **Arc** +14 TN **Extended Range** +10 TN

Table 148: Plasmasmithing, Plasma SMGs

Plasma Rifles

Plasma rifles are exclusively large weapons, housing a relatively high Heat with a decent power output. The output can range anywhere from 35 kW all the way to 100 kW, as well as boasting impressive range increments. They are the backbone of plasarms, and can take a variety of emitters with ease.

Type	Heat	Wattage	Range	Emitters
Large Plasma Rifle	Base: 45 +3 TN per every 1	+2 TN per category (5th-11th category) −6 Heat per category after the 5th	+2 TN per every 5' over 35' (Max 80')	**Standard** Free **Charge** +6 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +10 TN **Wave** +9 TN **Stun** +9 TN **Glow** +4 TN **Power Conserve** +6 TN **Grid** +6 TN **Pulse** +8 TN **Arc** +8 TN **Extended Range** +8 TN

Table 149: Plasmasmithing, Plasma Rifles

Electric Rifles

Electric Rifles are all Large sized. They have a wattage range anywhere from 10 kW all the way to 200 kW. Their range increments are usually between 15-60', but having longer ranges is not unheard of. The initial Heat rating is very dependent on how much the maker wishes to invest.

Type	Heat	Wattage	Range	Emitters
Large Electric Rifle	Base: 15 +1 TN per every 1	+3 TN per category −2 Heat per category	+1 TN per every 5' over 25' (Max 120')	**Standard** Free **Fan** +5 TN **Ball** +9 TN **EMP** +13 TN

Table 150: Plasmasmithing, Electric Rifles

Beamcasters

Beamcasters come in Medium and Large sizes, housing a relatively high Heat with a decent power output. The output can range anywhere from 25 kW all the way to 120 kW, as well as boasting decent range increments. They are the backbone of lasarms.

Type	Heat	Wattage	Range	Emitters
Medium Beamcaster	Base: 14 +3 TN per every 1	+2 TN per category (3rd-12th category) −4 Heat per category after the 5th	+2 TN per every 5' over 25' (Max 60')	**Standard** Free **Charge** +5 TN **Scour** +8 TN **Focus** +9 TN **Grid** +14 TN **Pulse** +13 TN **UV** +7 TN **Infared** +9 TN
Large Beamcaster	Base: 25 +3 TN per every 1	+2 TN per category (3rd-12th category) −4 Heat per category after the 5th	+2 TN per every 5' over 35' (Max 70')	**Standard** Free **Charge** +5 TN **Scour** +6 TN **Focus** +9 TN **Grid** +11 TN **Pulse** +9 TN **UV** +7 TN **Infared** +9 TN

Table 151: Plasmasmithing, Beamcasters

Plasma Sniper Rifles

Plasma sniper rifles are an evolution of plasma rifles, focusing on extending the range as far as possible, even at the cost of Heat and damage. They are meant for distance shooters, and take benefit from a well placed shot over a high damaging one.

Type	Heat	Wattage	Range	Emitters
Large Plasma Sniper Rifle	Base: 45 +7 TN per every 1	+3 TN per category (5th-11th category) −4 Heat per category after the 5th	+1 TN per every 5' over 65' (Max 700')	**Standard** Free **Charge** +15 TN **Colored** +4 TN **Shaped** +4 TN **Bounce** +12 TN **Wave** +16 TN **Stun** +14 TN **Glow** +4 TN **Power Conserve** +8 TN **Grid** +10 TN **Pulse** +9 TN **Arc** +16 TN **Infared** +20 TN **Extended Range** Free

Table 152: Plasmasmithing, Plasma Sniper Rifles

Explosive Lased Media Guns

ELM guns come in two forms; standalone and underbarrel. They have a low Heat with a significantly powerful wattage. The output can range anywhere from 35 kW all the way to 200 kW. ELM guns can not take any emitter upgrades.

Type	Heat	Wattage	Range	Emitters
Standalone ELM Gun	Base: 1 +4 TN per every 1 (Max 6)	+2 TN per category (9th-16th category)	+2 TN per every 5' over 25' (Max 80')	**Standard** Free
Underbarrel ELM Gun	Base: 1 +4 TN per every 1 (Max 6)	+2 TN per category (9th-16th category)	+2 TN per every 5' over 25' (Max 80')	**Standard** Free

Table 153: Plasmasmithing, ELM Guns

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